

ATTRIBUTION OF RESPONSIBILITY AS A
FUNCTION OF THE STRUCTURE,
QUALITY, AND INTENSITY OF
THE EVENT

By
JEFFERSON LEWIS SULZER

A DISSERTATION PRESENTED TO THE GRADUATE COUNCIL OF
THE UNIVERSITY OF FLORIDA
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE
DEGREE OF DOCTOR OF PHILOSOPHY

UNIVERSITY OF FLORIDA

June, 1964

ACKNOWLEDGMENTS

The writer wishes to express his appreciation for the guidance and advice given him by the members of his supervisory committee: Dr. Marvin E. Shaw, chairman, Dr. J. Mason Wright, Dr. Henry S. Pennypacker, Dr. Sidney M. Jourard, and Dr. J. V. D. Saunders. He would also like to express his gratitude to Mrs. Louanne Antrim for typing the manuscript and to the students who served as subjects in this study.

TABLE OF CONTENTS

	<u>Page</u>
ACKNOWLEDGMENTS	ii
LIST OF TABLES	v
LIST OF FIGURES	vii
CHAPTER	
I INTRODUCTION	1
The Perception of Causality	3
Attribution of Responsibility	8
Experimental Studies of Attribution of Responsibility	14
The Problem	18
Theoretical Framework	21
Hypotheses: Attribution of Responsibility (AR)	24
Hypotheses: Assignment of Sanctions (AS)	26
II STIMULUS MATERIALS	29
Event Structure (Levels)	29
Outcome Selection	31
Order of Presentation	34
III EXPERIMENT 1. ATTRIBUTION OF RESPONSIBILITY	36
Method	36
Subjects	36
Stimulus Materials	36
Administration	37
Results	38
Order Effects	38
Experimental Variables	41
Summary of Results of Experiment 1	57
Discussion	59

	<u>Page</u>
IV EXPERIMENT 2. ASSIGNMENT OF SANCTIONS	66
Method	66
Subjects	66
Stimulus Materials	66
Administration	66
Results	67
Order Effects	68
Experimental Variables	71
Summary of Results of Experiment 2	84
Discussion	86
V SUMMARY AND CONCLUSIONS	90
Attribution of Responsibility	91
Assignment of Sanctions	92
Attribution of Responsibility and Assignment of Sanctions	94
Conclusions	101
APPENDICES	103
A. INSTRUCTIONS	104
B. STIMULUS MATERIALS	110
C. RAW DATA	121
D. SUPPLEMENTARY ANALYSIS	140
REFERENCES	149
BIOGRAPHICAL SKETCH	153

LIST OF TABLES

<u>Table</u>	<u>Page</u>
1. Mean Attribution of Responsibility Ratings for each Stimulus Item in each of the Four Orders of Presentation	39
2. Summary of the Analysis of Variance for Attribution of Responsibility Ratings, Experiment 1	40
3. Mean Attribution of Responsibility Rating and Variance for Positive and Negative Outcomes at each of the Five Levels	44
4. Mean Attribution of Responsibility Rating and Variance for Low, Moderate and High Outcome Intensity at each of the Five Levels	46
5. Mean Attribution of Responsibility Rating and Variance for each Outcome Quality and Intensity at each of the Five Levels	53
6. Mean Attribution of Responsibility Rating and Variance for Positive and Negative Outcome Quality at Low, Moderate and High Outcome Intensity	54
7. Summary of the Analysis of Variance for the Sanction Ratings, Experiment 2	69
8. Mean Sanction Ratings for each Stimulus Item in each of the Four Orders of Presentation	70
9. Mean Sanction Rating and Variance for Positive or Negative Outcomes at each of the Five Levels	74
10. Mean Sanction Rating and Variance for Low, Moderate and High Outcome Intensity at each of the Five Levels	75
11. Mean Sanction Rating and Variance for Positive and Negative Outcome Quality at Low, Moderate and High Outcome Intensity	81
12. Mean Sanction Rating and Variance for each Outcome Quality and Intensity at each of the Five Levels	82

<u>Table</u>	<u>Page</u>
13. Mean Ratings for Abstract Structure, Outcome, Responsibility and Sanctions for each Stimulus Item . . .	96
14. Mean AR, Mean AS and Percent of Subjects who Attributed Responsibility and Assigned Sanctions for each Stimulus Item	98

LIST OF FIGURES

<u>Figure</u>	<u>Page</u>
1. Mean attribution of responsibility assigned to the abstract stories at each Level	32
2. Mean attribution of responsibility for the abstract and realistic stories at each Level	42
3. Mean attribution of responsibility rating for Positive and Negative outcomes at each Level.	47
4. Mean attribution of responsibility for Low (L), Moderate (M), and High (H) intensity outcomes at each Level	50
5. Mean attribution of responsibility for High (H-) and Low (L-) intensity negative outcomes at each Level	52
6. Mean attribution of responsibility for each stimulus item at each Level	56
7. Mean attribution of responsibility and assignment of sanctions at each Level	72
8. Mean assignment of sanctions for Positive and Negative outcomes at each Level	76
9. Mean assignment of sanctions for Low (L), Moderate (M), and High (H) outcomes at each Level	79
10. Mean assignment of sanctions for each stimulus item at each Level.	83

CHAPTER I

INTRODUCTION

The present paper is concerned with the attribution of responsibility and assignment of sanctions as functions of three aspects of the action outcome: causal structure, quality, and intensity. It represents an experimental application of Fritz Heider's (1944, 1958a) "naive analysis of action" and attempts to provide empirical data upon which a more definitive theoretical framework may be developed.

Attribution of responsibility and assignment of sanctions are related behaviors which depend upon two interacting factors: personality characteristics and response traits of the attributor and perceived characteristics of the stimulus situation. This study is concerned only with stimulus factors and is based upon the assumption that communalities of experience in dealing with social situations produce common ways of perceiving and reacting to interpersonal action outcomes. It should not be inferred from this selective emphasis that characteristics of the perceiver are considered to be merely troublesome sources of variability. On the contrary, the writer believes that individual differences in reacting to the relevant stimuli constitute an important area for future research. However, the experiments reported here were conducted with the additional belief that the study of such individual differences cannot proceed effectively until the critical aspects of the stimulus situations are identified and brought under control.

In agreement with others who have been concerned with the topic, the writer considers the perception of social responsibility to be a process which is in many ways analagous to the perception of physical causality. It is assumed, therefore, that the primary determinant of responsibility attribution is the causal structure of the events as they are perceived by the attributor. However, since responsibility attribution concerns social (or interpersonal) events it is likely that the final judgments are not based solely upon perceived causal relationships but are subject to the influence of perceived degree of intention as well as favorableness and unfavorableness of the outcome. Once the judgment is made that another person is responsible for a given outcome he becomes open to sanction. At this point, the attributor may or may not apply objectively appropriate sanctions and it is assumed that the primary determinants in this final judgmental process include: perceived characteristics of the agent, interpersonal relations between the attributor and the agent, history and personality characteristics of the attributor, aspects of the current social environment as well as perceived quality and intensity of the outcome for which the agent is held responsible. In the experiments reported here the effects of causal structure and outcome upon the sanction judgments receive primary consideration under the explicit assumption that the other factors are not operative or are under experimental control.

To summarize the position taken in this paper then, it is assumed that responsibility attribution is based upon the perception of personal causality, which then determines whether or not the identified agent is open to sanction. Whether sanctions will actually be applied, as well as sanction direction and intensity, is primarily determined by the

perceived quality and intensity of the action outcome. This basic set of assumptions, as well as some alternative views, will be expanded in the following section.

The Perception of Causality

Basic to the attribution of responsibility is the process of perceiving causality. In fact, one theorist, Albert Pepitone (1958), defines responsibility attribution as the process of identifying the causal agent for a social action. Since the research reported in this paper is based upon a somewhat different definition of responsibility it may be helpful to examine the assumption that causal perception is fundamentally the same process regardless of the nature of the events concerned. In the following discussion it will be argued that the identification of causal agents for social events requires cognitions (or inferences) which are not typically involved in a causal interpretation of physical phenomena.

Until quite recently most of the empirical and theoretical explorations of causal perception have been carried on by Europeans. The three major treatments of the topic, Piaget (1930, 1932), Michotte (1963), and Heider (1944, 1958a), represent very different approaches and it is no surprise that they have produced different ways of viewing the phenomena involved. Michotte (1963) has conducted an ingenious series of experiments aimed at specifying the stimulus conditions under which causal conception occurs. In this research he has manipulated various physical dimensions to produce the perception of "mechanical" causality, which he maintains is the basic, innate process involved in all causal conception. Piaget's work has, of course, largely concentrated on the development of causal conception and he has relied heavily

upon qualitative differences in children's explanations of, and other reactions to, relatively commonplace physical and social events. Like Michotte he has argued that similar principles are involved in perceiving physical and social causality but Piaget maintains that this homogeneity decreases as the child grows older. Heider is in general agreement with Piaget in regard to the development of causal thinking but his theoretical treatment of the cognitive processes involved is based on a common-sense analysis rather than on the protocols of experimental subjects. Actually, Heider's analysis of causal perception in the social realm (which he calls "the naive analysis of action") seems to reflect a highly sophisticated application of Gestalt principles to the data of naive perception and it is precisely because his analysis is conducted within an established theoretical frame of reference that he has produced insights of considerable value to general psychology.

All three of these investigators have published findings indicating that purely physical events (interactions between physical objects) are sometimes interpreted as if they involved humans. Piaget's (1930, 1955) young children, Michotte's (1963) and Heider and Simmel's (1944) adults frequently described discrete physical events in terms of intention, motive, and interpersonal relations. Additional empirical support for the assumption of homogeneity of physical and social causal perception is provided by the extensive program of research conducted by Muuss (1959, 1960, 1961) and his co-workers (Ojemann, Levitt, Lyle, and Whiteside, 1955). For example, Muuss (1961) was able to get positive transfer from training in multicausal analysis of social interactions to the analysis of physical causality. Although other studies

could be cited, these seem sufficient to substantiate the claim that some of the same basic principles are operative in all types of causal perception. Of greater relevance to responsibility attribution; however, are the differences between physical and social events from the viewpoint of the relatively unsophisticated observer.

In personal or social causality, as in physical causality, the minimum requirements are that there is a sequential occurrence of events which appears to transfer energy from one object (A) to another object (B) so that some discriminable change of state occurs in B. Alfred North Whitehead (1933) has stated that causal perception involves the fundamental cognition that energy has recognizable paths through time and space and that this represents a conception of nature in terms of continuity. In a sophisticated, "scientific" approach to physical causality the continuity of events is considered to be infinite or complete, and the very fact that such continuity obtains, prevents us from identifying the primary or original cause. As we look back in time each event is found to have one or more relevant predecessor, and questions concerning the origin of a sequence thus remain largely unanswerable. This is also true of social or interpersonal events if we take a highly sophisticated point of view. However, it seems likely that ordinary causal perception does not typically involve notions of infinite regression, multi-causality, and rigorous application of logic, but instead follows what Abelson and Rosenberg (1958) have called the rules of "psycho-logic." Heider (1958b) maintains that there is a fundamental psycho-logical tendency for the naive perceiver to identify persons as the absolute causal origins of events, and that this serves to transform irreversible changes into reversible ones by making it feasible (and

legitimate) to apply sanctions to the responsible person.

Heider (1958b, p. 4) quotes Fauconnet as follows: "Man is, in a certain sense, a first cause, if not of the physical movements which constitute his acts, at least of their moral quality. . . . From this perfect causality originates his responsibility." In identifying a person as the first cause of an event, his intentions are of primary importance because they provide the basis for the psycho-logical cognition that the event originated in him. It is precisely because the individual can be identified as the origin of an event that his fellows feel justified in punishing him for harmful acts. Nowhere is this clearer than in the McNaghten Rule which is the basic criterion of criminal responsibility. H. A. Davidson (1952, p. 3) quotes the original formula as: ". . . he [the defendant] was laboring under such a defect of reason from disease of the mind as not to know the nature and quality of the act; or, if he did know it, that he did not know he was doing what was wrong." The obvious implication of this legal formula is that if a person had knowledge of the harmfulness of an act he was committing we are led to infer that he intended to harm his victim, or more generally, that he foresaw and intended to produce the specific outcome in question.

A concern with the agent's intention appears to constitute a fundamental difference in the perception of physical and social causality, at least as they occur in normal adult observers. From his developmental studies, Piaget (1930, 1932, 1955) concludes that although the child begins by imputing motive and intention to physical objects and events he gradually becomes more sophisticated and restricts his imputations of intention to personal agents. Although this conclusion seems to be

contradicted by Michotte's (1963) and Heider and Simmel's (1944) studies in which adults interpreted apparent interactions between physical objects in personal terms (i.e., intention, purpose and social influence), it is likely that these findings represent as if interpretations of artificially discrete events which were so constructed that they resembled human interaction. That is, the mechanical movements used as stimuli in these experiments were different from ordinary physical occurrences in some important respects, including the appearance of spontaneous self-propulsion. Such spontaneous, self-caused movement is but one basis for inferring intention on the part of the agent. A related basis for this inference is provided where the agent appears to show flexible or adaptative behavior in reaching his presumed goal. This is clearer, perhaps, in Heider's (1958a) distinction between personal and physical causality. For Heider, the conditions of personal causality are met when both "equifinality" and "local causality" (e.g., transfer of energy) appear. In the case of impersonal causality, equifinality does not occur because a physical event may produce one or more of a large number of effects depending upon the particular circumstances. To take an example from Heider, a falling stone may hit a man, fall on the ground, or start an avalanche. In the case of personal causality, on the other hand, equifinality does occur, in that the personal agent with the intention of producing a given effect can choose among a variety of means to reach the same goal, even though environmental circumstances may be opposed to the production of the outcome.

If one accepts the validity of these differences between personal and impersonal causality the implications are far-reaching. First, where personal causality operates a source outside the situation cannot

as simply change the outcome by manipulating physical objects and conditions. Second, the perception of personal causality is more complex and requires different kinds of judgments - especially in regard to the intentions of the agent. Third, where the causal relations are somewhat ambiguous and a person is held responsible it is very likely that the attributor is inferring at least some intention on the agent's part. (In fact, equifinality almost necessitates the cognition that the events are guided by a goal-oriented agent.) Finally, the stronger the opposing environmental conditions which were overcome to reach a final outcome the clearer the indication that the agent intended to produce it. (This "overcoming of obstacles" has been used by Warner [1928] and others as an indicant of drive strength in rodents; it is perhaps unnecessary to point out that we are concerned here with the phenomenological implications of the behavior as well as with its operational utility.)

Attribution of Responsibility

The literature on responsibility attribution is not extensive and at present there is a great need for conceptual clarification of the construct "responsibility" and of the attribution process itself. There seems to be general agreement among those who use the term that responsibility attribution involves the designation of one or more persons as the primary origin of a specific event (X) which has occurred in the interpersonal life space. For Pepitone (1958) this is all that responsibility attribution entails. Wright (1960, 1963) agrees with Pepitone but complicates the picture somewhat by suggesting that willingness to sanction the personal agent (P) for the commission of X may be utilized as an indication that responsibility has, in fact, been

attributed to him. A statement by Shaw and Sulzer (1964, 1963, p. 1) seems to reflect this same line of thinking. "When one person attributes responsibility for an event to another individual, he blames that person if the outcome is negative and praises (gives credit to) him if the outcome is positive." This statement obviously implies that responsibility attribution and the application or assignment of sanctions are either identical processes or that they are highly correlated. From the point of view taken here both of these assumptions are unwarranted until their validity is attested to empirically. In the interest of conceptual clarity, attribution of responsibility will be discussed in the following paragraphs as a process which does not necessarily imply that sanctioning, or willingness to sanction, will occur.

Theoretical analysis of responsibility attribution. From the writings of Jean Piaget (1932, 1948, 1955) it is apparent that he believes that the moral value of an action outcome, as well as responsibility for having produced it, may be decided in terms of the amount of damage it represents (objective responsibility) or in terms of the actor's intentions and motives (subjective responsibility). According to Piaget, adults typically make these judgments on the basis of motive, while most children under the age of nine or so show an almost total reliance upon outcome intensity. Piaget draws these conclusions from an examination of children's responses to pairs of short stories which were designed so that one member of each pair included a well-intentioned act resulting in considerable material damage while the other story depicted a selfish or malicious act which produced relatively minor consequences. From Piaget's journalistic presentation of his results it is rather difficult to make a quantitative evaluation of his

findings. Furthermore, a careful examination of his stimulus materials reveals that other factors (notably causal structure) are confounded with those he attempted to vary. Thus, his statements in regard to the age at which subjective responsibility predominates are in need of further experimental support. Bandura and McDonald (1963) and Boehm (1963) have produced results which show that preschool children are capable of verbalizing in terms of motivation and intention. What is needed now, is experimental evidence on the age at which the effects of outcome intensity are reduced or (possibly) disappear.

Piaget's developmental statements are so dramatic that they tend to obscure the fact that he was aware of other variables which affect the attribution process. More explicit statements of greater theoretical utility (for present purposes) have been made by Pepitone (1958) and Heider (1958a). Pepitone considers responsibility as one of the three "dimensions of social causality," conceptually separate from "Intentionality" and "Justifiability." The Responsibility dimension is basically concerned with the cognitive processes involved in identifying the causal agent for a social (interpersonal) act. Intentionality concerns the agent's intentions, which may be positive or negative depending upon whether they are to benefit or harm the perceiver. His third dimension, Justifiability, is based upon the cognition that the act is in agreement (or disagreement) with various logical and social norms, or other kinds of generally accepted standards. Pepitone's triadic treatment of social causality has many interesting implications for the attribution process and it is unfortunate that he has not developed it more fully. (Most of the research reported by Pepitone is concerned with the effects of these variables upon sociometric ratings and with the effect of status upon the attribution of causality.) Since Heider's

(1944, 1958a) analysis is similar to, but more extensive than, Pepitone's, it has been assumed as the theoretical framework for the present paper.

Heider (1958a) extended his naive analysis of causality to include personal responsibility, which he conceptualizes as a cognized link between the person and the final outcome. Intention is the central factor determining intimacy of the link. Generalizing from his distinction between personal and impersonal causality, Heider maintains that responsibility for the outcome may be attributed to the person, to the environment, or to both. The environment includes all impersonal factors which might be perceived as facilitating or inhibiting production of a given outcome, such as "luck," task difficulty, coercion, social influence and norms, or even fate or "Supreme being." Thus, responsibility for a given outcome need not be attributed solely to a personal origin. In Heider's conceptualization, "personal responsibility . . . varies with the relative contribution of environmental factors to the action outcome; in general, the more they are felt to influence the action, the less the person is held responsible" (1958a, p. 113). An important implication of this assertion (if it is accepted), is that it is legitimate to ask questions about the degree of perceived responsibility.

Drawing on the writings of Stern (1923), Fauconnet (1928) and Piaget (1932, 1948) Heider described five "levels" in attribution of responsibility which represent a progression from relatively primitive to relatively sophisticated cognitive processes. The levels have been labelled and restated by Shaw and Sulzer (1964) as follows:

Level I: Global-Association: The person is held responsible for any effect with which he is connected in any way. In Piaget's (1955) terms, responsibility at this most primitive stage

is determined by syncretistic, pseudo-causal reasoning rather than by consideration of objective causal connections. Thus, a person may be blamed for harmful acts committed by his friends.

Level II: Extended Commission: The person is held responsible for any effect that he produced by his actions, even though he definitely could not have foreseen the consequences of his actions. As in Piaget's (1932) "objective responsibility" the person is judged according to what he does but not according to his motives.

Level III: Careless Commission: The person is held responsible for any foreseeable effect that he produced by his actions even though the effect was not a part of his goals or intentions. He is held responsible for the lack of restraint that a wider cognitive field would have produced.

Level IV: Purposive Commission: The person is held responsible for any effect that he produced by his actions, foreseeing the outcome and intending to produce the effect. This corresponds roughly to Piaget's "subjective responsibility" in which motives are the central issue.

Level V: Justified Commission: The person is held only partly responsible for any effect that he intentionally produced if the circumstances were such that most persons would have felt and acted as he did. That is, responsibility for the act is at least shared by the coercive environment.

Heider apparently intended these "levels" to be a description of developmental stages, supplementing or replacing Piaget's three-stage theory of the development of causal thinking. However, they may also be viewed as descriptions of the information which is sufficient for attribution of personal responsibility at each level of sophistication. (It should be remembered that one of the components of personal responsibility is intentionality; therefore, such attribution implies that P, the primary person, intended to produce the outcome.) For the most unsophisticated individual, the minimal information contained in Level I should be a sufficient basis for attribution and the information contained in the "higher" levels would have the effect of unnecessary redundancy. For such an individual, attribution at the different levels should be highly similar. On the other hand, a more sophisticated individual would be less likely to attribute personal responsibility given the information at Levels I and II, because sizable inferential leaps would be required in regard to the actor's intention. Thus, attribution of personal responsibility by the sophisticated person should gradually increase up to a maximum at Level IV, where the cues clearly indicate intention, and be somewhat less at Level V, where he might attribute some responsibility to both the person and the environment because of the extenuating circumstances. Shaw and Sulzer (1964), using stories designed to represent each of Heider's Levels in responsibility attribution have obtained some empirical support for these expectations, since they found that children attribute responsibility to child actors in a relatively undifferentiated manner. When the stories involved adults, however, no significant differences were found as a function of the subjects' ages. The implication of these findings

to Piaget's stage theory is considerable. Of greater relevance to the present paper, however, is the fact that Shaw and Sulzer (1964) demonstrated that Heider's Levels have considerable utility as a framework for studying the variables involved in responsibility attribution.

Experimental Studies of Attribution of Responsibility

In spite of the fact that the literature on the perception of causality has a fairly long history, relatively little research has been conducted which bears directly on the attribution of responsibility. With the recent revival of interest in interpersonal perception, however, some studies have been reinterpreted in terms of causal perception and responsibility attribution. These studies, when added to those specifically designed to investigate responsibility, comprise the beginnings of a body of literature which will probably show rapid growth in the next few years.

The development of a generally accepted methodological approach has not progressed very far and reflects the fact that the topic has only recently entered the domain of experimental psychology. To the writer's knowledge, the only instruments which have been specifically developed to study responsibility attribution are the Social Interaction Series used by Wright (1960, 1963) and the stories representing Heider's "Levels in responsibility attribution" reported by Shaw and Sulzer (1964). The Social Interaction Series includes a set of 36 line drawings which depict a man and woman, boy and woman, boy and man, and two men in successive stages of a positive and negative interaction. Measures of direction and amount of attribution of responsibility (AR) are obtainable and the instrument may be used with individuals or groups of subjects. Shaw and Sulzer's Levels in Responsibility Attribution Stories have been

used in several experiments (Sulzer, Nickols, Blum and Brant, 1963; Sulzer and Shaw, 1963; Shaw and Sulzer, 1964) and, in spite of variations in content, they have produced highly predictable AR patterns using adult subjects. The instrument has an additional advantage in that the story technique has been used extensively in developmental studies of moral judgment and causal perception, and thus lends itself to a unified treatment of these related phenomena. Relevant findings have been reported by Piaget (1932, 1948, 1955), Harrower (1934), Cuber and Pell (1941), Seeman (1947), Levitt (1955), Diggory (1962), Johnson (1962a), Bandura and McDonald (1963), and Boehm (1963).

Shaw and Sulzer's (1964) study partially supported their hypothesis that children would show relatively undifferentiated attribution; however, the children attributed very much as did adult subjects when the stories involved adult actors and activities. This indicates that children may actually perceive responsibility in peers and in adults in a different manner. Other studies reported by Seeman (1947), Thibaut and Riecken (1955), Pepitone and Kleiner (1957), Pepitone and Sherberg (1957) and Wright (1960, 1963) support the conclusion that social status is an important determinant of perceived responsibility. Seeman, using a "moral evaluations questionnaire" designed by Cuber and Pell (1941), found that Negroes were considered to be less responsible or less "wrong" than whites when they were described as engaging in identical amoral behavior. Thibaut and Riecken's findings clearly show that persons are more likely to perceive the locus of causality as "internal" (own force) for high-status persons and as "external" (induced force or coercion) for low-status persons. The studies conducted by Pepitone and his associates are somewhat less relevant because

of the ex post facto tie-in between status and responsibility, but Wright's two experiments unequivocally demonstrate that there is a tendency to attribute more responsibility to authorities than to peers. An interesting sidelight of his results is that males attributed more responsibility to female than to male authorities. In view of this finding it is possible, as Wright (1960) has suggested, that much of what has been interpreted as status effects may merely reflect a tendency to attribute differently to individuals who are similar and dissimilar to the attributor. It is interesting to note that both status (power) and similarity (cognitive balance) effects are predictable from Heider's (1958a) theory.

Of considerable theoretical interest are the experiments which investigated locus of causality because they provide support for the contention that responsibility may be attributed to the person or the environment. This idea is particularly important because it has implications for theories other than those which deal per se with the attribution of responsibility. For example, Festinger (1957) has suggested that one way of avoiding or reducing post-decision dissonance is by attributing responsibility for the decision to the environment rather than to self. It is entirely possible that a tendency to attribute more to one or the other may prove to be a response trait with high relevance as a predictor of other behavior. (At present, Wright [1960] has conducted the only investigation relating attribution patterns to personality factors.) However, Bialer (1960) has produced a preliminary scale to measure locus of control in mentally retarded and normal children. This scale was used by McConnell (1963) in an attempt to show that externally controlled subjects would be more suggestible. Although this

hypothesis was not supported, he did find that locus of control scores are partially developmental in nature but show a significant curvilinear relationship with chronological age. Considering the work of Piaget on the development of causal thinking, it seems likely that high attribution to the environment does not mean the same thing for young children as it does for older ones. Thus, McConnell's curvilinear relationship may simply reflect the fact that his scale could benefit from a distinction between "syncretistic" and "sophisticated" attribution of responsibility to the environment.

Related to external-internal attribution patterns is the concept of diffusion of responsibility, or attribution to a number of agents or sources. Although there is relatively little published research utilizing responsibility diffusion as an independent variable, it appears to be a promising approach to the study of group dynamics and organizational behavior. For example, Wallach, Kogan and Bem (1964) produced results which indicate that diffusion or spreading of responsibility for potential failure among all the members of a group leads to greater risk-taking. It remains to be seen whether diffusion of responsibility also lowers individual achievement motive and/or has other undesirable effects upon group performance. In regard to the effects of focal attribution, Worthy, Wright, and Shaw (1963) found that an individual who has responsibility attributed to him for his team's losses in a noncompetitive game became less willing to enter into future interactions. This finding is certainly relevant to potential group effectiveness, but is based on an extreme case where a single member is rather consistently identified as the cause of his group's poor performance. His reluctance to enter into future interactions may simply reflect the negative reinforcement

he received for his past efforts as well as a lowered estimate of his value to the group. Although this study is a significant one, it cannot be taken as indicative of reactions to having responsibility attributed to an individual in all situations since it dealt only with responsibility for a negative event. It seems likely that being held responsible for both positive and negative events, or for positive only, would have different effects upon the accused.

Most of the experimentation on responsibility attribution and other moral behavior has been concerned only with negative outcomes. Whether or not this reflects a bias on the part of those conducting the research, it has led to a somewhat one-sided theoretical development of the phenomena involved, and possibly restricts the general applicability of the conclusions which have been reached. Experiments by Wright (1960, 1963) and Shaw and Sulzer (1964) have reported some significant differences in attribution of responsibility for positive and negative outcomes; however, the outcome variable is in need of further exploration. This deficiency provides a major raison d'être for the present investigation.

The Problem

The present investigation had as its primary concern the evaluation of the effects of outcome characteristics and causal structure upon the attribution of responsibility. In many respects, it extends the work done by Shaw and Sulzer (1964) but was conducted with the explicit expectation that more conclusive results would be obtained. The findings of this investigation could be of critical importance to the development of a more comprehensive theory of responsibility attribution and have some important implications for the more general topical areas

which have been labelled "interpersonal perception" and "moral judgment." By including both positive and negative outcomes it was hoped that results would be obtained which would encourage a reappraisal of theories and models which have overemphasized negatively valued behavior.

Existing evidence on the role of outcome in responsibility attribution is meager and somewhat equivocal. Piaget (1932, 1948), in his assessment of the development of moral judgment, varied outcome intensity (amount of damage), but dealt only with negative outcomes. The only studies explicitly designed to evaluate the role of outcome in responsibility attribution were conducted by Wright (1960, 1963) and Shaw and Sulzer (1964). In all of these experiments outcome quality (positive and negative) was investigated rather than outcome intensity. In his first experiment Wright (1960) obtained significant outcome effects only in a second order interaction but in a later replication (1963) (with a different experimenter and subject population) he produced a significant main effect attributable to outcome quality. Shaw and Sulzer (1964), utilizing Heider's Levels in Responsibility Attribution, reported significant outcome effects in an experiment concerned with children's activities, but a replication using adult activities failed to confirm these results. There are no ready explanations for the instability of these findings except for the obvious possibility that the experimental manipulations were too weak. The stimulus materials used by Wright and by Shaw and Sulzer contained relatively mild outcomes and it was anticipated that this weakness would be overcome in the present investigation in which both quality and intensity were varied.

A secondary purpose of this investigation was to study the effects of causal structure, outcome quality, and outcome intensity upon the assignment of sanctions. Hypotheses were tested in regard to the effects of these variables on judgments concerning the amount of sanctioning considered to be appropriate. An additional set of expectations concerning the relationship between attribution of responsibility and assignment of sanctions were also evaluated. Empirical studies relating these variables are almost as rare as those concerned with responsibility attribution. Piaget is generally considered to be the first, and almost the only, researcher to study moral judgment; however, Johnson (1962b) has turned up studies by Schallenger (1894) and Barnes (1894, 1902) which anticipated Piaget's methodology and many of his findings. From his research, Piaget (1932, 1948) concluded that the amount of punishment considered appropriate for a given act is determined by the actor's motives rather than by outcome intensity in children of age ten or older. Kohn (1959), in a study comparing working-class and middle-class families, concluded that middle-class parents were far more likely to decide on an appropriate punishment on the basis of judged intent behind a misdeed. This suggests that population differences may account for the discrepancy between the results of Piaget (1932, 1948), Boehm (1963) and Bandura and McDonald (1963). However, there is still no basis for concluding that outcome characteristics do not exert a powerful influence on adults' sanctioning behavior. Piaget's position on this point is rather puzzling. For example, Piaget himself assumes that outcome intensity is a potent determinant of sanctioning behavior in adults when he makes an attempt to explain the origin of objective responsibility. Quoting Piaget:

The hypothesis may therefore be advanced that evaluations based on material damage alone are the result of adult constraint refracted through childish respect far rather than a spontaneous manifestation of the child mind. Generally speaking, adults deal very harshly with clumsiness. In so far as parents fail to grasp the situation and lose their tempers in proportion to the amount of damage done, in so far will the child begin by adopting this way of looking at things and apply literally the rules thus imposed, even if they were only implicit (1948, pp. 126-127).

Although this statement clearly indicates that he believes sanctioning by adults is often based upon outcome intensity, Piaget concludes that subjective responsibility (judgment based on intention and motive) completely replaces objective responsibility as a child matures.

Thus these answers [his subject's responses] present us with two distinct moral attitudes - one that judges actions according to their material consequences, and one that only takes intentions in account. These two attitudes may co-exist at the same age and even in the same child, but broadly speaking, they do not synchronize. Objective responsibility diminishes on the average as the child grows older, and subjective responsibility gains correlatively in importance. We have therefore two processes partially overlapping, but of which the second gradually succeeds in dominating the first (1948, p. 129).

In the present paper no attempt was made to unravel the apparent contradictions in Piaget's views of moral judgment. Nevertheless, it was expected that the research reported in the following pages would clearly show that outcome characteristics have a decided and predictable effect upon judgments of appropriate punishment and reward.

Theoretical Framework

The theoretical framework for the investigations reported here was derived from Fritz Heider's (1958a) "naive analysis of action," in general, and his analysis of attribution of responsibility, in particular. These analyses indicate that judgments in regard to responsibility for

a given outcome are based upon the perception of personal causality which is, in turn, based upon an evaluation of the relative contribution of environmental forces and personal forces (power, intention and motive) to the final outcome. The experimental approach utilized in these investigations was based upon the assumption that Heider's Levels in Responsibility Attribution, as they have been restated by Shaw and Sulzer (1964), provide an accurate and comprehensive representation of the causal structure upon which most responsibility attribution occurs.

In regard to the relationship of the independent variables (causal structure, outcome quality and outcome intensity) to the dependent variables (attribution of responsibility and assignment of sanctions), additional propositions were stated which were not derived from Heider, although they appear to be congruent with his views. These propositions may be generally stated as follows:

1. Responsibility attribution is primarily determined by the variables represented in the structure of personal causality.
2. Outcome characteristics (i.e., quality and intensity) are a secondary source of variability.
3. Attribution of responsibility determines whether an individual is open to sanctioning but does not dictate the amount of sanctioning (punishment or reward) which will be considered appropriate.
4. Judgments with respect to appropriate sanctions are primarily determined by the perceived quality and intensity of the outcome for which the individual is held responsible.
5. Causal structure partly determines the degree to which sanctioning judgments are susceptible to the influence of outcome characteristics.

Before stating the specific hypotheses, it might be helpful to examine an operational definition of each of the major variables.

Causal Structure. This complex variable is represented by stories constructed in conformity with Heider's Levels in Responsibility Attribution. Five different "Levels" or structures were represented, each of which portrays a specifiable relationship between a primary person (P) and the final outcome (X) for which his responsibility is to be assessed. To facilitate communication these Levels have been labelled as follows: Level I, Global Association; Level II, Extended Commission; Level III, Careless Commission; Level IV, Purposive Commission; Level V, Justified Commission.

Outcome Quality (Q). Favorableness (Positive Q) or unfavorableness (Negative Q) of the final outcome as judged by a sample of subjects drawn from the target population. In this paper Outcome Quality is concerned with benefit or harm to persons rather than to physical objects. All outcomes were evaluated as occurring to hypothetical others, rather than to the self.

Outcome Intensity (I). Degree of favorability or unfavorability of the outcome as judged by the same sample of subjects. The final set of outcomes represents three intensities (Low, Moderate and High) for each outcome quality. An attempt has been made to include a broad range of outcomes, from those which are almost neutral to those which represent an extreme degree of harm or benefit (e.g., loss of life or rescue from death).

Attribution of Responsibility (AR). The degree to which P is

perceived as responsible for a given outcome is directly assessed by the subject's self-recorded ratings after having read each story representing a specific structure-outcome combination.

Assignment of Sanctions (AS). The degree as well as the direction (punishment or reward) of the sanctions considered appropriate in each case is directly assessed by the subject's self-recorded ratings.

Hypotheses: Attribution of Responsibility (AR)

In addition to the propositions stated above the following hypotheses are based upon two general assumptions. First, in regard to Outcome Quality, it was assumed that there are cultural forces or norms which are differentially directed toward the production of positive and negative outcomes. Heider (1958) refers to these forces as "Ought" and "Ought Not." Assuming that these forces are operating, AR for positive outcomes, which are in keeping with the Ought forces, should be less than AR for negative outcomes, which are in opposition to these "supra individual norms." In other words, it was assumed that greater intention to produce an outcome would be inferred when such production required P to overcome opposing cultural norms. Secondly, it was assumed that the perceived degree of compliance with, or opposition to, the Ought forces is a positive function of perceived Outcome Intensity. Thus, the more intense the outcome, the more the primary actor, P, will be perceived as responsible for negative outcomes. Before listing the specific hypotheses, however, one additional assumption should be mentioned. On the basis of the second assumption P should be perceived as less responsible for High intensity positive outcomes. It seems likely, however, that extremely positive outcomes

may be seen as so far beyond the call of duty that P may be seen as more responsible if the positive outcome exceeds cultural expectations.

Hypothesis 1. Mean AR for abstract representations of Heider's Levels increases more or less linearly up to Level IV, followed by a drop at Level V.

Hypothesis 2. Mean AR for realistic representations of Heider's Levels follows the same general trend as the abstract representations except for minor variations introduced by content.

Hypothesis 3. Overall AR is significantly greater for Negative outcomes than for Positive outcomes.

Hypothesis 4. Mean AR increases significantly as a positive function of Outcome Intensity.

Hypothesis 5. A significant Levels by Quality interaction is expected, primarily due to differential effects of Outcome Quality at Levels III, IV and V. That is, the effect of Outcome Quality should be less at Level IV (where P's intention is clear) than at Levels III and V. The greatest effect of Quality is expected to occur at Level V, where the amount of justification is assumed to be highly sensitive to cultural standards.

Hypothesis 6. A significant Levels by Outcome Intensity interaction is expected, primarily due to relatively large differences at Levels III and V as compared with Levels I, II and IV. Level V is expected to show the greatest effects of Outcome Intensity because of the postulated involvement of Intensity in determining the amount of perceived justification.

Hypothesis 7. A weak, but significant, interaction is predicted between Outcome Intensity and Outcome Quality. Negative outcomes should produce greater mean AR at all Intensities, however the relative size of this difference is expected to increase as Intensity increases.

Hypothesis 8. A significant Levels by Intensity by Quality interaction is expected, primarily due to greater differences among Outcome Quality-Intensity combinations at Levels III and V than at the other levels; however, AR is expected to be greater for Negative outcomes at all Levels and Intensities. The smallest differences among the Quality-Intensity combinations are expected to occur at Levels I and IV.

Hypotheses: Assignment of Sanctions (AS)

In most respects the hypotheses regarding the degree to which the subject is willing to sanction P are based upon the propositions and assumptions which were stated earlier. Causal structure (Levels) is expected to contribute to the Sanction ratings to some extent but the influence of outcome characteristics is expected to be greater in the case of AS than in AR. Outcome Quality is assumed to determine the direction of sanction (i.e., reward or punishment) while Outcome Intensity is expected to be the major determinant of the amount of sanctioning considered appropriate. Nevertheless, AS is expected to be greater for Negative outcomes than for Positive outcomes, due to the fact that the former are produced in opposition to cultural norms and thus may be perceived as necessitating punishment in order to prevent their reoccurrence. On the other hand, it seems likely that Positive outcomes will produce relatively low AS unless they are judged to be "beyond the call of duty."

Hypothesis 1. Overall AS is significantly different over the five Levels, generally following the trend of AR.

Hypothesis 2. AS is significantly greater for Negative than for Positive outcomes.

Hypothesis 3. AS increases as a positive function of Outcome Intensity.

Hypothesis 4. A significant interaction is expected between Levels and Outcome Quality primarily due to greater differences between AS for Positive and Negative outcomes at Levels III and V than at the other Levels.

Hypothesis 5. A significant interaction is expected between Levels and Outcome Intensity due to greater Outcome Intensity differences at Levels III, IV and V.

Hypothesis 6. A significant interaction is expected between Outcome Quality and Outcome Intensity partly due to a ceiling effect for Negative outcomes. AS for Positive outcomes is expected to be a positively accelerated, increasing function of Outcome Intensity; for Negative outcomes a negatively accelerated, increasing function is expected.

Hypothesis 7. A significant interaction is expected between Levels, Outcome Quality and Outcome Intensity due to greater effects of Outcome Quality and Outcome Intensity at Levels III, IV and V.

In addition to these formally stated hypotheses certain expectations in regard to the relationship between AR and AS were also

evaluated. In general, these expectations involved the assumption that AR is primarily determined by causal structure (Levels), while AS is primarily determined by outcome characteristics. Evidence in support of this assumption should show that the effects of Outcome Quality and Intensity are greater for AS than for AR. Obviously, such findings would also be related to the more general statement that AR determines whether P is open to legitimate sanctioning.

CHAPTER II

STIMULUS MATERIALS

The stimulus materials for both experiments consisted of 30 short stories representing all possible combinations of the three independent variables: Outcome Quality (Q), Outcome Intensity (I), and event structure or Levels (L). The specific outcomes and structures which were used in the experimental phases of the study were selected in a preliminary investigation in which an attempt was made to maximize control over these variables. The following sections describe this preliminary investigation and present and discuss some of the relevant findings.

Event Structure (Levels)

In earlier studies using Heider's Levels in Responsibility (Shaw and Sulzer, 1964) the stimulus materials were constructed on the basis of Heider's (1958a) somewhat loose descriptions. The stories for the different levels were composed around the basic characteristics of each level: P's association with the agent or instrument (Level I), unintended and unforeseeable consequences (Level II), unintended-but foreseeable consequences (Level III), intended and foreseeable consequences (Level IV), and justified consequences which are both intended and foreseeable (Level V). The main criterion for success in controlling the Levels variable was complete agreement among two or more judges

who classified the finished stories. Although this procedure is open to criticism, its success is attested to by the predictability and stability of ratings obtained from different sets of stories produced in this manner. The main disadvantage of the procedure is that it provides only a general definition of structure and thus runs the risk of including differently perceived structures under the same Levels designation and thereby increasing response variance. Shaw and Sulzer (1964) suggested that one might overcome this disadvantage by having more than one item represent each cell. In the present case this was not feasible since the design required a minimum of 30 stories with only one representative per cell. With two items per cell the task would have been cumbersome and lengthy, and would have introduced confounding factors such as fatigue and boredom. The decision to use one item per cell, however, greatly increased the need to evaluate various possible structures so that the stories representing each Level might be equated.

The basic procedure followed in evaluating the structures was to present 23 subjects (17 males and 6 females) with a number of abstract representations of the Levels variables and have them indicate the degree to which person P was responsible for the outcome in each case. The structures were "abstract" in that they contained only the barest statement of the Levels variables with a minimum of irrelevant content. For example, a card which was intended to represent a Level I structure, association by friendship, read as follows:

Person P is person O's friend.
O harms X.
Is P responsible for harming X?

Thirty-six stories of this sort were typed on cards and projected on a

screen one at a time to the entire group of subjects. To insure attentiveness and to pace the task, the experimenter read each card aloud while it was being projected. The subjects rated each story on a zero-to-ten-point scale to indicate degree of P's responsibility for each outcome. Responsibility was defined for them (as in earlier studies in which the author participated) as "the basis upon which we might assign praise or blame to a person for a given event." The complete set of instructions is entered in Appendix A-1.

Mean ratings and variance were obtained for each of the stories. From the initial set, one to three were selected from each level, primarily on the basis of equivalence of means. These stories and their means are presented in Appendix B-1. Figure 1 shows the mean rating for each of the selected stories at each Level as well as the combined mean (dotted line) for all of the stories at each level. From the plotted points it is obvious that variability at each level was not great. Furthermore, the overall mean closely resembles the findings from the studies in which more realistic content has been included. One exception is the dropoff at Level V. This is in line with the expectations derived from Heider but has not been produced in every case in the earlier studies. Very likely these failures were due to the difficulty of achieving the desired balance between perceived outcome intensity and amount of coercion. With the relatively abstract and content-free stories it seems likely that the judgment is made with greater emphasis upon the nature of the coercion.

Outcome Selection

Previous research on the effect of outcome on the attribution of responsibility has been primarily confined to outcome quality, i.e.,

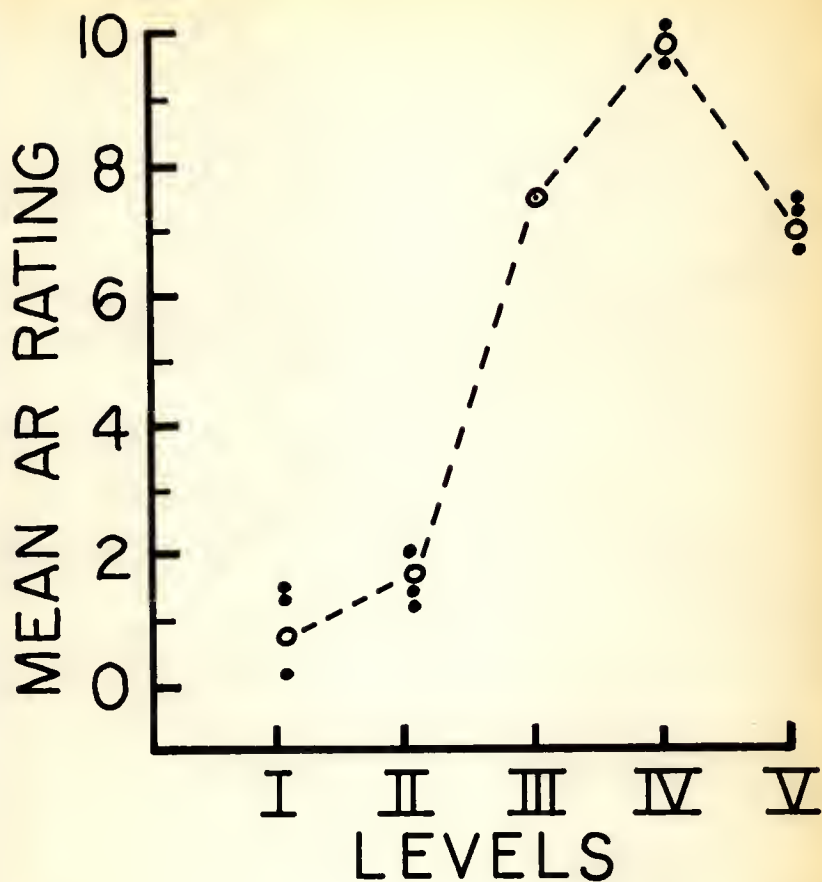


Fig. 1. Mean attribution of responsibility assigned to the abstract stories at each Level.

favorableness or unfavorableness of outcome. The degree, or intensity, of outcome has not been the subject of direct systematic investigation, although Wright (1960) and Shaw and Sulzer (1964) were aware of the potential effects of this variable. Because of the equivocal nature of the few relevant findings, it was assumed that clear-cut effects attributable to outcome characteristics would not be obtained unless the outcomes themselves were carefully selected. Although considerable inter-subject agreement was expected in the designation of events as positive or negative, it seemed likely that a greater amount of variance might be obtained in regard to outcome intensity. In view of these considerations, outcomes were selected on the basis of intensity ratings assigned by subjects drawn from the target population.

From a large pool of items, 114 were selected and presented to 40 subjects (24 males and 16 females) who designated each outcome as favorable or unfavorable and rated it on a zero-to-ten-point scale to indicate perceived degree of favorability or unfavorability. Each item included an object, e.g., "a student," "a farm worker," or "a busload of school children," and an event which affected the object, e.g., "gets kicked out of school," "is made foreman on a ranch," and "are seriously injured in a forest fire." Prior to obtaining the ratings, the criteria for selection of items were established as follows: Low intensity items should have a mean rating of .5 to 1.0 and a range of 0 to 2.0; Moderate intensity items should have a mean of 5.0 and a range of 4.0 to 6.0; and High intensity items should have a mean of 9.5 to 10.0 and a range of 8.0 to 10.0. The experimental design required five outcomes of each quality-intensity combination. The criteria, as stated above, apparently proved too rigorous. Among

the positive items only three Low, two Moderate, and nine High met criterion, while among the negative items, three Low, no Moderate, and nine High were acceptable.

Using the same outcomes, a second set of ratings was obtained in which a different group of 25 subjects (23 males and 12 females) were required to assign only a low, high and "in between" value. (The instructions for this final rating are entered in Appendix A-2.) From these results the final set of outcomes was selected and is shown in Appendix B-2, classified by Intensity and Quality. For both Low and High outcomes, inter-subject agreement was better than 90 per cent. The problem of excessive variability in judging the moderate intensity items still remained. Therefore, Moderate outcomes were accepted if they elicited better than 60 per cent agreement.

Once a sufficient number of outcomes at the three levels were available, there remained only the problem of combining them with the appropriate event structure (i.e., Levels) to complete the stimulus materials. Each of the acceptable outcomes within each Quality-Intensity combination were randomly assigned to one of the abstract structures already selected. Finally, the structures and outcomes were combined in relatively realistic short stories and were thoroughly examined to insure their conformity to experimental requirements. The complete set of stimulus items classified by Level, Outcome Quality, and Outcome Intensity is entered in Appendix B-3.

Order of Presentation

Since the early days of psychophysical experiments, the order in which objects are presented has been regarded as a potential source of variance. Wever and Zener (1928), Helson (1947), and others have

demonstrated that physical stimuli appearing early in a series may exert an important effect by providing a subjective standard against which later stimuli are judged. McGarvey's (1943) excellent study provides evidence of controlled anchoring effects in the judgment of verbal materials (moral acts and occupational status). In order to evaluate potential order effects and increase generalizability of the findings, four independent random orders were used in the present experiments. The location of each stimulus item in each of the four Orders of presentation is shown in Appendix B-4.

CHAPTER III

EXPERIMENT 1. ATTRIBUTION OF RESPONSIBILITY

Method

Subjects

This experiment utilized data from 96 subjects, 64 males and 34 females. The subjects were drawn on a volunteer basis from two large courses of introductory psychology and were awarded research credit for their participation.

Stimulus Materials

The stimulus materials were described in detail in the preceding chapter. Briefly, they consisted of 30 short stories which represented combinations of the three independent variables: structure or Levels (L), Outcome Quality (Q), and Outcome Intensity (I). Six stories were composed on structures representing each of the five Levels in Attribution described by Shaw and Sulzer (1964). Three of the stories at each Level contained Positive (favorable) Outcome Quality and three contained Negative (unfavorable) Outcome Quality. Each of these three represented a different degree of Outcome Intensity, Low, Moderate and High, as determined by pre-experimental ratings. The complete set of stories was reproduced on a six-page response sheet in four different random orders which were labelled A, B, C and D for identification.

Twenty-four subjects received each order. Beneath each story there was a blank and a rating scale ranging from zero to ten. (An example of the stimulus materials is entered in Appendix B-3.)

Administration

The subjects were assembled separately in three groups of 43, 32 and 24 individuals in the early evening within a period of one week. They remained seated in a large lecture room for the 45 minutes required for everyone to complete the assigned task. The doors were closed to prevent interruptions; the response sheets and pencils were distributed and then the instructions were read by the experimenter. The subjects were told to read each story and decide whether or not P was responsible for the specified event. If they thought P was not responsible they were to write "No" in the blank under the story and circle the zero end of the scale. If they thought P was responsible they were to circle a number from one to ten to indicate the amount of P's responsibility for the event. Thus, the ratings assigned to each story could vary from zero (no responsibility) to ten (maximum AR). As in earlier studies using this type of material, responsibility was defined for the subjects by telling them that: "If a person is responsible for something that means that we might praise or blame him for it." (The complete instructions are entered in Appendix A-3.)

The instructions were apparently adequate for task execution since few questions were asked and no discernible errors were made in using

The reader has probably noticed that this definition encouraged the subjects to relate responsibility attribution to sanctioning (i.e., praise and blame). This may constitute a methodological weakness but it was made necessary by a desire to follow the procedure employed by Shaw and Sulzer (1964).

the scale. The subjects worked quietly and steadily for an average of approximately 30 minutes. In no case did an entire session run longer than 45 minutes, including the time required to distribute the materials and read the instructions. At the end of each session the subjects were asked to refrain from discussing the content with their classmates. Whether or not they complied with this request, no differences were found among the results from the different sessions.

Results

Table 1 shows mean AR for each stimulus item obtained under each order of presentation, as well as mean AR and variance for all orders combined. An analysis of variance, conforming to a Lindquist (1953) Type VI, was conducted on the AR ratings and the results of this analysis are summarized in Table 2. The effects which were tested over each error term are listed under the column headed "M.S. tested."

Order Effects

The different Orders of presentation were utilized in an attempt to increase the generalizability of the findings. Therefore, Order is a control, rather than an experimental, variable and its effects will be considered separately. Table 2 indicates that the main effect and all interactions involving Order produced F ratios with associated probabilities in excess of the chosen level of significance (.05). The only interactions which closely approached the required level were Quality by Order ($Q \times O$) and Intensity by Quality by Order ($I \times Q \times O$). Since the Order effects did not attain significance, there is no reason to discuss them in more detail; the results of the analysis of variance indicate

Table 1

Mean Attribution of Responsibility Ratings for each Stimulus Item
in each of the Four Orders of Presentation

Item	Orders of Presentation				Total	
	A	B	C	D	\bar{X}	σ^2
I	+L .62	1.41	1.50	2.75	1.57	9.59
	+M 1.79	.87	1.42	.96	1.26	7.63
	+H 1.08	1.00	.88	1.92	1.22	8.00
	-L .96	.67	.12	.42	.54	3.54
	-M 1.58	1.13	1.50	1.38	1.40	6.30
	-H .96	1.29	1.33	1.58	1.29	4.88
II	+L 2.50	3.25	4.21	4.38	3.58	8.71
	+M 1.04	1.58	1.54	1.96	1.53	3.43
	+H 4.08	6.96	6.67	6.12	5.96	11.94
	-L .38	.92	.92	1.38	.90	2.47
	-M 1.92	3.38	2.79	2.92	2.75	9.77
	-H 2.38	2.67	2.88	2.42	2.58	7.82
III	+L 4.79	6.33	5.92	5.83	5.72	10.69
	+M 5.17	4.21	4.08	3.00	4.11	10.19
	+H 2.92	5.17	5.17	3.46	4.18	9.81
	-L 8.92	9.25	8.00	9.21	8.84	3.42
	-M 8.92	8.33	8.54	8.58	8.59	4.50
	-H 9.54	9.63	9.12	9.54	9.46	1.20
IV	+L 9.13	8.67	9.29	9.33	9.10	3.38
	+M 8.83	9.17	7.96	8.79	8.69	4.05
	+H 9.33	9.00	8.92	9.67	9.23	2.62
	-L 9.29	8.79	9.25	9.13	9.11	3.85
	-M 6.92	6.92	7.17	7.79	7.20	5.68
	-H 9.42	9.25	8.83	9.13	9.16	2.79
V	+L 2.00	2.21	2.75	2.21	2.29	7.96
	+M 6.67	6.92	6.75	6.33	6.67	8.22
	+H 4.63	5.54	5.87	5.33	5.34	9.66
	-L 5.96	5.25	5.29	5.00	5.37	12.05
	-M 6.08	5.25	6.62	6.08	6.01	9.67
	-H 9.46	9.04	8.00	9.29	8.95	3.57
Grand Mean	4.92	5.13	5.11	5.20	5.09	16.28
σ^2	17.31	16.41	15.45	15.99		

* The letters L, M and H refer to Low, Moderate, and High Outcome Intensity.
The plus and minus signs refer to Positive and Negative Outcome Quality.

Table 2

Summary of the Analysis of Variance for Attribution of
Responsibility Ratings, Experiment 1

Source	df	Mean Square	F	p
<u>Total Between Ss</u>	<u>95</u>			
Order (O)	3	11.17	.55	N.S.
Error	92	20.34		
<u>Total Within</u>	<u>2784</u>			
Levels (L)	4	5,288.90	546.44	*
Intensity (I)	2	306.82	52.78	*
Quality (Q)	1	437.89	62.29	*
L x I	8	170.59	30.85	*
L x Q	4	806.36	135.49	*
I x Q	2	22.08	2.62	N.S.
L x I x Q	8	160.91	37.82	*
L x O	12	13.28	1.37	N.S.
I x O	6	7.52	1.29	N.S.
Q x O	3	17.01	2.42	N.S.
L x I x O	24	5.77	1.04	N.S.
L x Q x O	12	6.54	1.10	N.S.
I x Q x O	6	17.18	2.04	N.S.
L x I x Q x O	24	3.81	.90	N.S.
<u>Total Error Within</u>	<u>2668</u>		<u>M.S. Tested</u>	
error w ₁	368	9.68	L, L x O	
error w ₂	184	5.81	I, I x O	
error w ₃	92	7.03	Q, Q x O	
error w ₄	736	5.53	L x I, L x I x Q	
error w ₅	368	5.95	L x Q, L x Q x O	
error w ₆	184	8.43	I x Q, I x Q x O	
error w ₇	736	4.25	L x I x Q	
			L x I x Q x O	
<u>Total for Experiment</u>	<u>2879</u>			

* $p < .05$

that the findings of this experiment were not unduly influenced by anchoring effects.

Experimental Variables

An examination of Table 2 reveals that virtually all of the experimental variables produced significant effects upon the AR ratings. The main effects of Levels (L), Outcome Intensity (I), and Outcome Quality (Q), as well as most of the interactions of these variables, produced highly significant F-ratios. The only combination of experimental variables which failed to achieve the required .05 level was the interaction between Outcome Intensity and Quality (I x Q). These effects will be considered in more detail and related to the hypotheses in the following paragraphs.

Hypothesis 1. Mean AR for abstract representations of Heider's Levels increases more or less linearly up to Level IV, followed by a drop at Level V.

Hypothesis 2. Mean AR for realistic representations of Heider's Levels follows the same general trend as the abstract representations except for minor variations introduced by content.

The results of the analysis of variance revealed that the Levels variable had a highly significant effect on the AR ratings. Further evidence in support of Hypotheses 1 and 2 is provided by Figure 2, which compares mean AR obtained for the abstract stories (dashed lines) with mean AR for the realistic stories (solid lines). The solid line in Figure 2 shows overall mean AR for all six stories at each of the five Levels and clearly reveals a more or less ogival increasing function

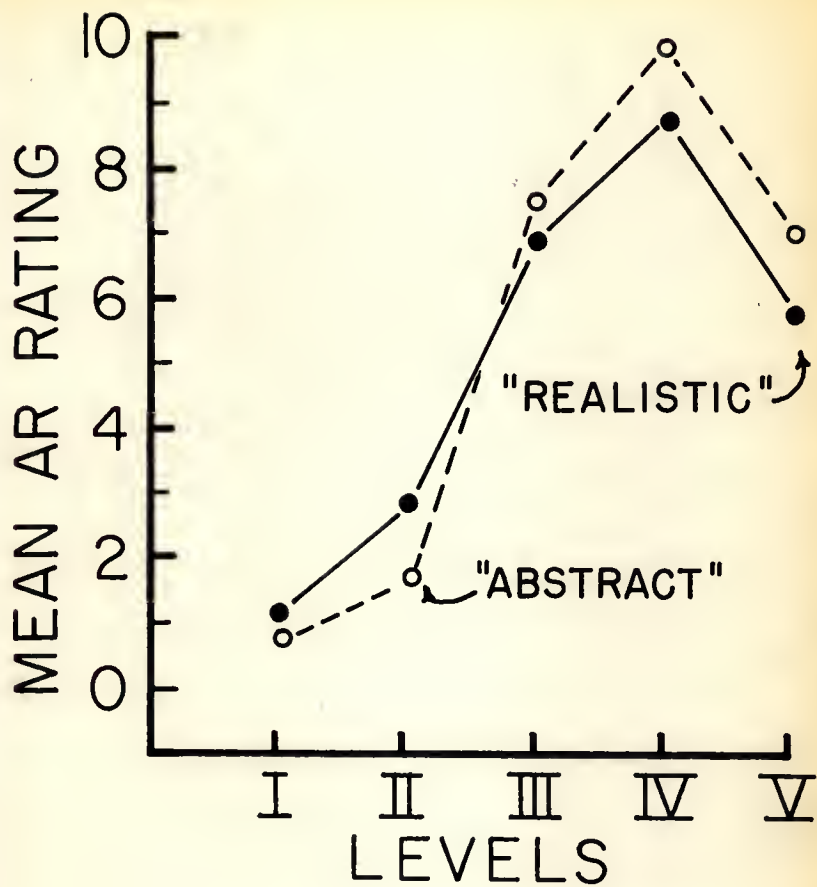


Fig. 2. Mean attribution of responsibility for the abstract and realistic stories at each Level.

up to Level IV (Purposive Commission) and a rather sharp drop at Level V (Justified Commission). Comparing this curve with the dashed lines representing the ratings obtained with the Abstract structures, the similarity is striking. The major difference is a consistent tendency for the realistic ratings to more nearly approximate the overall mean (5.09). This could represent regression effects, but may also reflect a basic difference in the rating of content-free and content-rich material. At any rate, the similarity between the two curves is sufficient to demonstrate that the translation from the abstract structures was reasonably successful. From the results of the analysis of variance and the means shown in Figure 2 we may conclude that Hypotheses 1 and 2 were strongly supported. However, there are indications that the statement in regard to the linearity of the relationship between AR and Levels I through IV may be an oversimplification.

Hypothesis 3. Overall AR is significantly greater for Negative outcomes than for Positive outcomes.

The results of the analysis of variance summarized in Table 2 indicate that the main effect of Outcome Quality was highly reliable and thus lend support to the hypothesis. Table 3 shows the overall means for Positive and Negative outcomes as 4.70 and 5.48, respectively, and indicates that the difference was in the predicted direction.

Hypothesis 4. Mean AR increases significantly as a positive function of Outcome Intensity.

This hypothesis is given general support by the significant main effect for Outcome Intensity which is shown in the analysis of variance

Table 3

Mean Attribution of Responsibility Rating and Variance for
Positive and Negative Outcomes at
each of the Five Levels

Level	Outcome Quality		
	Positive	Negative	Combined
I \bar{X}	1.35	1.08	1.21
σ^2	8.37	5.02	6.70
II \bar{X}	3.69	2.08	2.88
σ^2	11.25	7.35	9.94
III \bar{X}	4.67	8.97	6.82
σ^2	10.71	3.15	11.54
IV \bar{X}	9.01	8.49	8.75
σ^2	3.38	4.91	4.21
V \bar{X}	4.77	6.77	5.77
σ^2	11.92	10.80	12.35
Total \bar{X}	4.70	5.48	5.09
σ^2	15.26	17.01	16.28

table. More specific evidence is provided by Table 4 which shows the grand means for Low, Moderate and High Intensity outcomes as 4.70, 4.82 and 5.74, respectively. The insignificant increase from Low to Moderate Intensity ($t = .46$) contrasts sharply with the jump of almost a full scale value from Moderate to High ($t = 7.83$, 1918 df). From this comparison it is obvious that the significant Intensity effect is largely the result of greater AR for the High Intensity outcomes.

Hypothesis 5. A significant Levels by Quality interaction is expected, primarily due to differential effects of Outcome Quality at Levels III, IV and V. That is, the effect of Outcome Quality should be less at Level IV (where P's intention is clear) than at Levels III and V. The greatest effect of Quality is expected to occur at Level V, where the amount of justification is assumed to be highly sensitive to cultural standards.

This hypothesis is generally supported by the significant $L \times Q$ effect obtained in the analysis of variance. Differences between each pair of means were evaluated by Duncan's (1955) New Multiple Range Test, as described by Edwards (1960). The only means which were not significantly different ($p > .05$) were: Level I Positive versus Level I Negative, Level III Positive versus Level V Positive, and Level III Negative versus Level IV Positive. All other differences exceeded the shortest significant ranges of approximately .40. (Summaries of this and other Multiple Range Tests are entered in Appendix D.)

The means and variance for Positive and Negative outcomes at each of the five Levels are entered in Table 3; however, Figure 3 shows the interaction in somewhat clearer form. From Figure 3 it is

Table 4

Mean Attribution of Responsibility Rating and Variance
for Low, Moderate and High Outcome Intensity
at each of the Five Levels

		Outcome Intensity			
Level		Low	Moderate	High	Combined
I	\bar{X}	1.06	1.33	1.26	1.21
	σ^2	6.80	6.93	6.41	6.70
II	\bar{X}	2.24	2.14	4.27	2.88
	σ^2	7.38	6.94	12.69	9.94
III	\bar{X}	7.28	6.35	6.82	6.82
	σ^2	9.47	12.35	12.48	11.54
IV	\bar{X}	9.11	7.94	9.19	8.75
	σ^2	3.60	5.39	2.69	4.21
V	\bar{X}	3.83	6.34	7.15	5.77
	σ^2	12.34	9.01	9.84	12.35
Total	\bar{X}	4.70	4.82	5.74	5.09
	σ^2	17.13	14.85	16.26	16.23

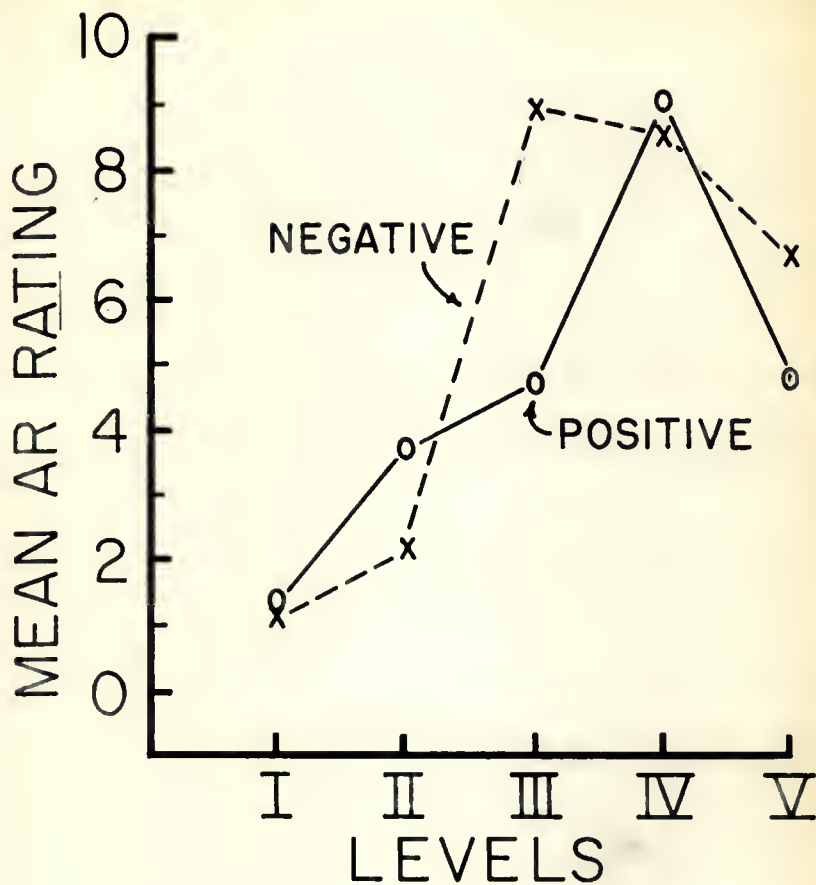


Fig. 3. Mean attribution of responsibility rating for Positive and Negative outcomes at each Level.

apparent that there were strikingly different Quality effects at the different Levels, but some of the effects were not in agreement with the predictions. Although larger differences were obtained at Levels III and V than at Level IV, the largest difference occurs not at Level V (Justified Commission) but at Level III (Careless Commission). Also unanticipated was the large difference in favor of Positive outcomes at Level II and the small difference in favor of Positive outcomes at Level IV. An examination of mean AR for each stimulus item shown in Table 1 reveals that the story including the Moderate outcome (IV-M) is responsible for depressing the negative mean at Level IV. (The failure of this item to pull its expected rating is attributable to ambiguity in regard to whether P's actions were justified. This point will be discussed in more detail later.) The difference in favor of Positive Outcome Quality at Level II reflects greater AR for both High and Low Intensity items and is, therefore, a more serious blow to the hypothesis. From the means displayed in Table 3 and Figure 3 it appears that the detailed predictions stated in Hypothesis 5 were not unequivocally supported. Important unexpected results were: the largest difference was obtained at Level III; the highest AR for Negative outcomes occurred at Level III; and Positive AR was greater than Negative at Levels II and IV.

Hypothesis 6. A significant Levels by Outcome Intensity interaction is expected, primarily due to relatively large differences at Levels III and V as compared with Levels I, II and IV. Level V is expected to show the greatest effects of Outcome Intensity because of the postulated involvement of Intensity in determining the amount of perceived justification.

The significant F ratio obtained for $L \times I$ provides strong general support for the hypothesis. The means and variances for Low, Moderate and High Outcomes, which are entered in Table 4, show a somewhat complex relationship in that mean AR for High Intensity Outcomes is not consistently greater than for Low and Moderate Intensity. Figure 4 provides a comparison of the means in graphical form but does little to clarify the relationship. A comparison of the means at each Level by Duncan's Multiple Range Test revealed the following: Level I, no significant differences; Level II, High was significantly greater than Low and Moderate; Level III, Low was significantly greater than Moderate; Level IV, Low and High were significantly greater than Moderate; Level V, High was significantly greater than Moderate and Low, and Moderate was significantly greater than Low.

Obviously, the hypothesized relationships were not obtained, except at Level V where Outcome Intensity showed a fairly clearcut positive relationship with AR. It seems quite likely that the significant $L \times I$ interaction was produced by the relatively large differences in favor of High Intensity at Level V and Level II, as compared with the other Levels. The elevated mean for High Intensity at Level II primarily reflects the unusually large rating pulled by the High Intensity, Positive item. In view of the inexplicable basis for this large mean, it would be unwise to take it as evidence of an Outcome Intensity effect. Furthermore, although the means at Level V showed the expected relationship, the means for Moderate and High Intensity displayed very little interaction over the five Levels.

In summary, the results shown in Table 4 and Figure 4 provide only partial support for Hypothesis 6 and (possibly) indicate a failure

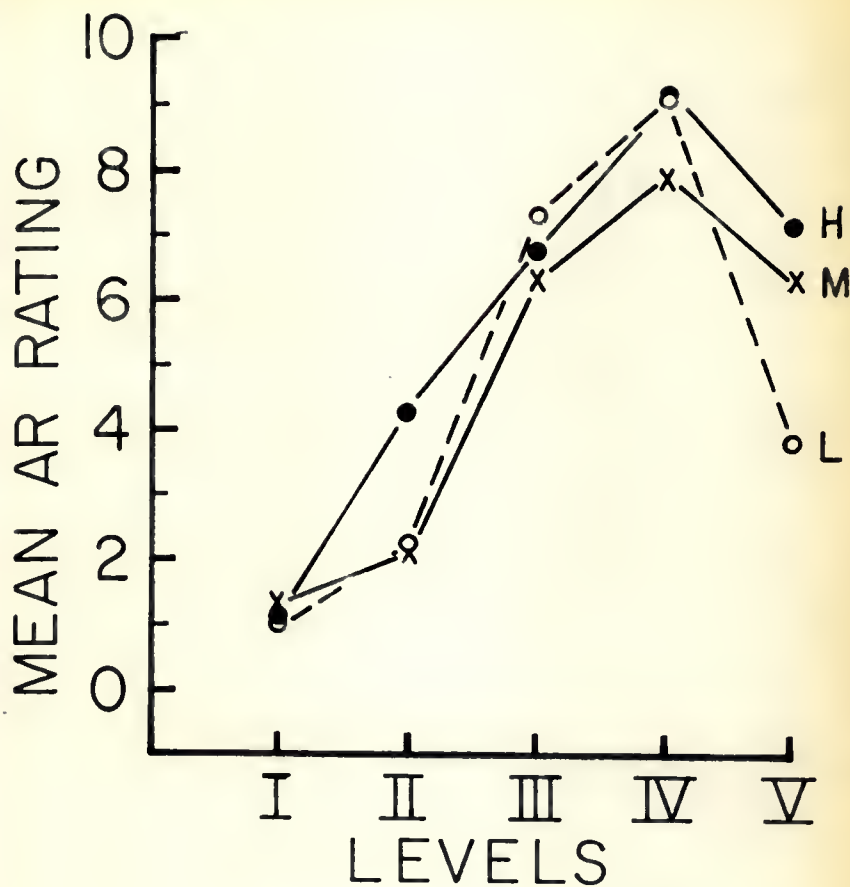


Fig. 4. Mean attribution of responsibility for Low (L), Moderate (M), and High (H) intensity outcomes at each Level.

to achieve the necessary control over the Intensity variables, particularly in combination with Positive Outcomes. Figure 5, which shows mean AR at each Level for only the High and Low Negative Outcomes, reinforces this conclusion. Although the means displayed in Figure 5 are not in complete agreement with the predictions made in Hypothesis 6, they clearly reveal that P was perceived as more responsible for High Intensity Negative Outcomes, regardless of the structure (Levels) with which they were combined. A final point of considerable theoretical importance is that the ratings at Level V did not drop significantly for High Negative Outcomes as they did for High Positive Outcomes. Table 5 shows the means for these items as 8.95 and 5.34, respectively.

Hypothesis 7. A weak, but significant, interaction is predicted between Outcome Intensity and Outcome Quality. Negative outcomes should produce greater mean AR at all Intensities, however the relative size of this difference is expected to increase as Intensity increases.

The results of the analysis of variance failed to support this hypothesis since the F ratio for I x Q failed to attain the required level of significance. Table 6 shows the means and variances for this interaction as well as the differences between the means for Positive and Negative outcomes at each Intensity. The increasing difference is in line with the prediction made in Hypothesis 7 and it is possible that a design permitting multivariate analysis would be more sensitive to this interaction.

Hypothesis 8. A significant Levels by Intensity by Quality interaction is expected, primarily due to greater differences among Outcome Quality-Intensity combinations at Levels III and V than at the

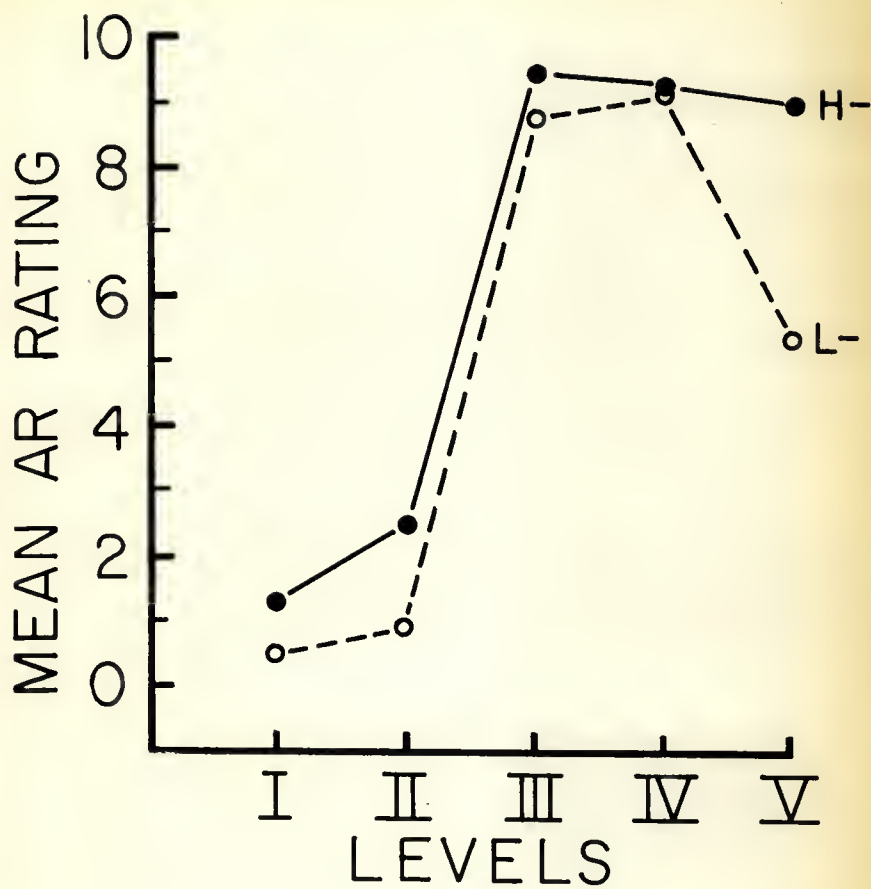


Fig. 5. Mean attribution of responsibility for High (H-) and Low (L-) intensity Negative outcomes at each Level.

Table 5

Mean Attribution of Responsibility Rating and Variance
for each Outcome Quality and Intensity
at each of the Five Levels

		Levels in Attribution				
Outcomes		I	II	III	IV	V
<u>Positive</u>						
Low	\bar{X}	1.57	3.58	5.72	9.10	2.29
	σ^2	9.59	8.71	10.69	3.38	7.96
Moderate	\bar{X}	1.26	1.53	4.11	8.69	6.67
	σ^2	7.63	3.43	10.19	4.05	8.22
High	\bar{X}	1.22	5.96	4.18	9.23	5.34
	σ^2	8.00	11.94	9.81	2.62	9.66
<u>Negative</u>						
Low	\bar{X}	.54	.90	8.84	9.11	5.37
	σ^2	3.54	2.47	3.42	3.85	12.05
Moderate	\bar{X}	1.40	2.75	8.59	7.20	6.01
	σ^2	6.30	9.77	4.50	5.68	9.67
High	\bar{X}	1.29	2.58	9.46	9.16	8.95
	σ^2	4.88	7.82	1.20	2.79	3.57
Grand Mean	\bar{X}	1.21	2.88	6.82	8.75	5.77
	σ^2	6.70	9.94	11.54	4.21	12.35

Table 6

Mean Attribution of Responsibility Rating and Variance for
Positive and Negative Outcome Quality at
Low, Moderate and High Outcome Intensity

		Outcome Quality		
Outcome Intensity		Positive	Negative	Difference
Low	\bar{X}	4.45	4.95	.50
	σ^2	15.40	18.76	
Moderate	\bar{X}	4.45	5.19	.74
	σ^2	15.00	14.47	
High	\bar{X}	5.19	6.29	1.10
	σ^2	15.09	16.85	
Total	\bar{X}	4.70	5.48	5.09
	σ^2	15.26	17.01	16.28

other Levels; however, AR is expected to be greater for Negative outcomes at all Levels and Intensities. The smallest differences among the Quality-Intensity combinations are expected to occur at Levels I and IV.

General support for this hypothesis was provided by the analysis of variance which produced a significant F ratio for the $L \times I \times Q$ interaction. The means entered in Table 5, however, indicate that not all of the expected relationships were obtained. The differences among the means at each Level were evaluated by Duncan's Multiple Range Tests. Mean AR for each combination of the variables is shown in Figure 6 and an examination of this figure clearly reveals the major points of congruence with and departure from the expectations. As was predicted, the greatest differences occurred at Levels III and V and the smallest differences occurred at Levels I and IV. In disagreement with expectations, AR was not significantly greater for Negative Outcomes at all Levels and Intensities; nevertheless, only a few dramatic reversals are evident.

In Figure 6 the means at Level I are clustered together around the minimal AR rating and partly reflect the fact that many subjects did not hold P responsible at this Global Association level. The dispersion at Level II, which reveals significantly greater AR for High and Low Positive outcomes than for Negative outcomes, was not anticipated and is in opposition to the hypothesized relationships. At Level III much greater attribution was drawn by Negative outcomes but the expected Outcome Intensity effects were not obtained. As predicted, the Level IV means are clustered at near maximum AR, except for the Moderate Intensity, Negative item. The significant difference between the mean

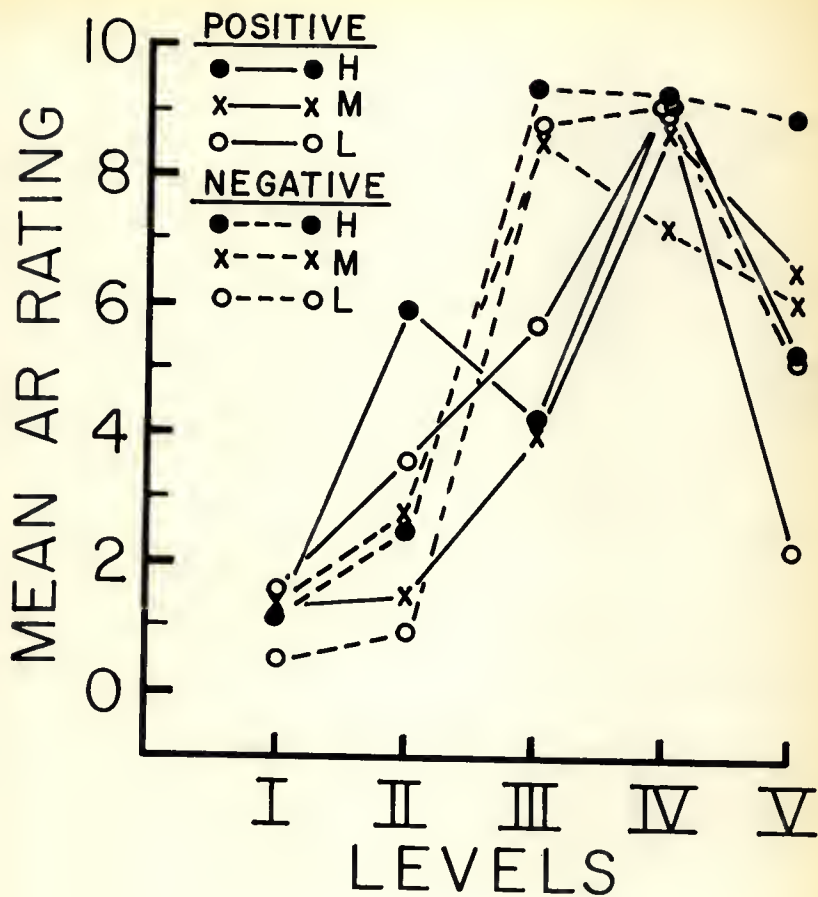


Fig. 6. Mean attribution of responsibility for each stimulus item at each Level.

for this item and the others at Level IV strongly supports the contention that its structure was differently perceived.²

At Level V, only the means for Moderate outcomes show lack of agreement with the hypothesis. Mean AR for High and Low Intensity outcomes, on the other hand, dramatically illustrate the expected effects of Quality and Intensity. For both Positive and Negative outcomes AR was significantly greater for High than for Low Intensity, but Negative outcomes appeared to be less influenced by the structure of Justified Commission. The High Intensity Negative mean did not drop significantly from its value at Level IV (and III) while the means for Low Negative and High Positive were equally depressed by the presence of Outcome-facilitating circumstances. Attribution for the Low Positive outcome at Level V strikingly demonstrates the influence of justification, since it fell almost to its Global Association value.

Summary of Results of Experiment 1

Order Effects. The order in which the stimulus materials was presented produced no significant effects.

²This item reads as follows:

P sent in a very bad report on an employee so that he would lose his job. The employee was fired. Is P responsible for the employee losing his job?

It seems likely that the content of this item caused it to be perceived, at least partly, in the framework of Justified Commission (Level V). Several considerations may have led to this, including the right of a superior to fire an employee and/or the inference that the employee deserved to lose his job because of incompetence, etc. Unfortunately, this ambiguity was not discovered in the pre-test period; if it had been, the item would have been reworded to conform more closely to the structure of personal causality. This could be accomplished by modifying "employee" with the adjectives "good" or "efficient" or by including a purely personal motive for P's actions.

Structure Effects. The causal structure (Levels) of the actions described in the stories had a highly significant effect upon AR. As predicted, AR increased up to the Purposive Commission Level and dropped off at the Justified Commission Level. The stories which contained realistic content produced the same general results as did the abstract structures upon which they were composed; however, the ratings for the realistic stories were somewhat closer to the grand mean.

Outcome Quality. The overall difference between Positive and Negative (favorable and unfavorable) outcomes proved to be statistically reliable and was in the predicted direction, i.e., AR was greater for Negative than for Positive outcomes.

Outcome Intensity. The intensity (degree of favorableness or unfavorableness) of the action outcome produced a significant effect upon AR. As predicted, a positive relationship between Outcome Intensity and AR was obtained; however, there was only a small difference between Low and Moderate outcomes. Apparently, the significant effect was produced by the relatively large mean for High Intensity outcomes.

Levels by Outcome Quality (L x Q). The interaction between Levels and Quality was statistically significant and generally in conformity with expectations. Outcome Quality had little effect on attribution at Levels I and IV but mean AR was greater for Negative outcomes at Levels III and V. A difference in favor of Positive outcomes at Level II occurred in all four Orders and indicates the operation of some undetected factors.

Levels by Outcome Intensity (L x I). A significant L x I effect

was obtained but the differences among the means were not wholly in agreement with expectations. As predicted, the largest differences occurred at Level V and showed a positive relationship between AR and Intensity. Relatively small differences were obtained at the other Levels, except at Level II where the mean for High Intensity outcomes reflected the elevated ratings assigned to the Positive items.

Outcome Intensity by Outcome Quality (I x Q). The interaction between Outcome Intensity and Quality was the only experimental effect which failed to achieve significance. Nevertheless, the trend was as predicted, i.e., increasing differences between Positive and Negative outcomes as Intensity increased.

Levels by Intensity by Quality (L x I x Q). In support of the relevant hypothesis, $L \times I \times Q$ proved to be statistically reliable. Also in keeping with expectations, large differences favoring Negative outcomes occurred at Levels III and V which revealed a positive relationship between AR and Outcome Intensity. Unanticipated findings were: larger means for Positive outcomes at Level II, nearly equal means for Negative outcomes at Levels III and IV, and reversals of the expected relationship between Positive and Negative Moderate Intensity outcomes at Levels IV and V.

Discussion

The results indicate that causal structure, as represented in Heider's Levels, is the main determinant of attribution of responsibility, but they also show that such attribution is influenced by the perceived quality and intensity of the outcome for which responsibility is

assessed. These findings argue against accepting Piaget's (1932) conclusion that mature persons attribute responsibility solely on the basis of the actor's motive and intention. It seems likely that Piaget was led to this erroneous conclusion because his methodology (a forced choice between pairs) provided no way to measure the interaction or relative degree of influence of causal structure and outcome characteristics.

Generally, the shape of the curve relating AR to Levels was as predicted and closely resembled the curves found by Shaw and Sulzer (1964) and Sulzer, Nickols, Blum, and Brant (1963) who used the same framework but stories with different content. The predictability and stability of these relationships is a strong argument in favor of the utility of the Levels approach in experimental investigations of responsibility attribution. The similarity of the overall ratings assigned to the abstract and realistic stories indicates that the underlying judgmental process was relatively rational or objective but the significant outcome effects show that the judgments can be influenced by subjective factors. Probably, attribution was more objective for the abstract structures, since these materials were almost completely devoid of social content.

In discussing studies of perceptual distortion several writers (e.g., Thrasher, 1954; Asch, 1956; Blake, Helson, and Mouton, 1956; Sherif and Sherif, 1956; and Kelley and Lamb, 1957) have concluded that the effects of the experimental manipulations are greater as the stimulus materials increase in ambiguity and lack of structure. Ambiguity or lack of structure, in itself, doesn't necessarily produce perceptual distortion. It is merely a condition which favors such distortion by bringing about a greater reliance on less central stimuli.

Judgments based upon these stimuli need not be less accurate than those based upon central ones. It is just that many perceptual experiments (including the present one) are generally designed so that these cues, if utilized, will lead to judgments that are not in complete agreement with some ostensibly objective standard. It was expected, therefore, that attribution for those causal structures which were most ambiguous in regard to P's linkage with the final outcome would be most influenced by non-causal factors, i.e., characteristics of the outcome itself.

In the present experiment, ambiguity per se was not varied; however, the structure at Levels II and III, and to some extent at Level V, was more ambiguous in regard to personal causality than was the structure at Levels I and IV. For example, at Level I, P had no stated part in harming or benefitting the object person (O); he was merely "associated" with the active agent. Few individuals would infer that P caused or intended to cause the outcome under these circumstances. The Level IV stories also lacked ambiguity since the causal link and P's intentions were quite clear. At Levels II and III, on the other hand, P clearly caused the outcome but information about his intentions was somewhat ambiguous. Presumably, this is what made these Levels more susceptible to outcome influences. At the Extended Commission Level (II) the nature of this influence was not in line with expectations, but AR for Positive and Negative outcomes at the Careless Commission Level (III) was strikingly different in the predicted direction.

Attribution for the Positive items at Level III was only slightly greater than at Level II, while AR for the Negative items was nearly as great as at the Purposive Commission Level (IV). Since the Level III stories involved harmful effects which were carelessly, rather than

deliberately, caused, it would appear that: (a) the subjects felt that P did not intentionally harm O but should be held totally responsible anyway because he was careless (or ruthless); or (b) they inferred that P did intend to cause the outcome. The first alternative is based upon an assumption that the subjects were, in this case, making judgments of P's "legal responsibility" (Cf. Piaget, 1948, p. 123ff.). The second alternative assumes that the negative quality of the outcomes influenced the subjects to make erroneous inferences. The available evidence provides no basis for choosing between these alternatives, but one rational consideration tends to favor the legal responsibility interpretation. As Piaget (1932, 1948) and Shaw and Sulzer (1964) have suggested, parents tend to react strongly to carelessly caused damage, and the instillation of thoughtfulness or foresight is heavily emphasized in child training. Thus, it may be that the differences obtained at Level III merely reflect an internalization of the standards which are implicit in parental behavior. If this is the case, differences between the sanction ratings for Negative and Positive outcomes at Level III should be even greater than were the observed differences in AR.

The effects of outcome characteristics at Level V require a different explanatory framework because the stories at this level involved justifiability, in addition to local causality and intention. The stories were composed, in fact, to represent P as intentionally causing the final outcome, but doing so under extenuating circumstances (externally-derived motives or coercion) which were disposed toward its production. An attempt was made to hold the strength of these coercive forces relatively constant for all stories (as indicated by ratings assigned to the abstract Level V items), so that an difference in AR

would reflect only the influence of outcome characteristics. Whether or not this attempt was successful, attribution of responsibility at Level V was apparently quite susceptible to these influences. The results show that the High Intensity negative outcome was perceived as far less justified than were the other outcomes, that the Low Negative and High Positive outcomes were seen as equally justified, and that the Low positive outcome was perceived as so strongly justified (or inconsequential) that hardly any responsibility was attributed to P. These findings are in line with the assumption that justification is largely determined by whether, and to what degree, the action outcome is congruent with, or in opposition to, culturally derived "Ought" forces or norms. This is equivalent, perhaps, to Heider's (1944, 1958a) statement that justification is determined by a consideration of the motive underlying the act. The value of Heider's distinction between intention (what P did) and motive (why he did it) derives from its theoretical utility in these cases. The former is one of the conditions of personal causality; the latter is the main basis for justification. To the degree that P's motive is perceived as a culturally acceptable basis for his actions, the attributor will feel that he would have felt and acted in the same way under those circumstances, i.e., that P's behavior was justified to some extent. Consequently, he will attribute less responsibility to P than he would if P's motives were less acceptable.

The influence of Outcome Intensity on AR at Level V can be explained by extending this line of reasoning. As was mentioned above, an attempt was made to hold the coercive force (externally-derived motive) constant in all of the Level V stories. It seems obvious, however, that a coercive force of given strength might be perceived as

sufficient justification for producing a positive or mildly negative outcome but not for a more extreme harmful act. The results showed that this is, in fact, true. Apparently the coercive force was perceived as sufficiently strong to justify almost all of the outcomes to some degree. Only the extremely negative outcome, which involved murder based on a revenge motive, failed to produce AR that was lower than at the Purposive Commission Level. Apparently, a socially acceptable motive of comparatively great strength is required to justify, and lower attribution for, such an outcome.

Most of this would be expected on the basis of a common sense analysis. Nevertheless, congruency with common sense does not detract from the theoretical value of the findings. The obtained results suggest, for example, that it is feasible to develop a rather precise quantitative statement of the relationship between Outcome Quality and Intensity on the one hand, and degree of perceived justification or responsibility on the other. With this information, it should be possible to construct stimulus materials in such a way that coercive forces are matched with outcome characteristics so that any desired degree of perceived justification (and AR) could be obtained. With perfect matching, the effects of Outcome Quality and Intensity on AR could be completely deleted or greatly magnified. The data obtained in the present study suggest that motives for negative outcomes would have to appear approximately twice as strong as for positive outcomes of equivalent intensity to produce an equal amount of justification. This is only a tentative statement of the relationship; a more comprehensive empirical base is needed for a more exact specification. Hopefully, such information will be forthcoming. It would be a significant contribution to the development of

a quantitative theory of responsibility attribution.

In the interest of completeness, a final interpretation of outcome effects should be mentioned which is more parsimonious, and less dramatic, than those offered above. It is possible that outcome effects were greatest at Levels II, III and V precisely because there was the greatest "room" for these effects to occur at these Levels. At the Global Association Level (I) the fact that little attribution occurred at all provided virtually no base for outcome effects to work upon. At the Intentional Commission Level (IV), on the other hand, P was so clearly responsible that virtually all subjects rated him as maximally responsible. Thus a ceiling effect and a floor effect may account for the fact that the influence of outcome characteristics was confined to Levels for which the abstract structures pulled AR ratings near the middle of the scale. However, even if this partially accounts for the interactions between Levels and Outcomes, it does not explain the direction of the differences which were obtained. The results seem to warrant the conclusion that attribution of responsibility is greater for negative than for positive outcomes and greater for extreme outcomes than for mild ones.

CHAPTER IV

EXPERIMENT 2. ASSIGNMENT OF SANCTIONS

Method

Subjects

The 120 subjects (80 males and 40 females) who provided the data for this experiment were drawn from the same population as were those who were utilized in Experiment 1. A total of 128 subjects actually participated, but prior to recording the data the response sheets of eight subjects were randomly discarded to equalize the number in the four orders of presentation.

Stimulus Materials

The stimulus materials were identical to those used in Experiment 1 except that the line reading, "Is P responsible for . . . ?" was deleted.

Administration

The administrative procedures, except for the instructions, conformed to those in Experiment 1. The subjects were assembled in three separate groups of 40 in the same large lecture room and at the same time of the evening within one week of the final administration of the first experiment. When all of the subjects were seated the stimulus materials were distributed and the experimenter read the instructions.

The subjects were told to read each story and decide whether P should be rewarded or punished for the final event described in the story. If they thought P should be neither rewarded or punished they were to enter a zero on the response sheet; reward or punishment was to be indicated by a plus or minus sign. The amount of sanctioning was indicated by circling a number on a ten-point scale. Before they began work at the task, the subjects were instructed to form some idea of what they might consider to be maximum and minimum punishment and reward. This suggestion, which resembles Kilpatrick and Cantril's (1960) "self-anchoring scaling" in some respects, was employed to orient the subjects to task requirements and to establish individually meaningful scale limits before they began the actual process of rating. (The complete instructions are entered in Appendix A-4.)

Results

The scale values obtained in this experiment ranged from +10 (maximum reward) through zero (neither punishment nor reward) to -10 (maximum punishment). Because a few ratings of objectively inappropriate sign were assigned (e.g., a rating of -2 to a Positive outcome or a rating of +2 to a Negative outcome), the following procedure was adopted:

1. A constant of -10 was added to all ratings assigned to negative outcomes and a constant of +10 was added to all ratings assigned to positive outcomes.
2. Statistical analyses were carried out on the absolute values of the resulting quantities.

Thus, in the tables which follow, a mean value of 20 indicates that the maximum appropriate sanction (either reward or punishment) was assigned,

a value of zero indicates that no sanctions were assigned, and values less than 10 indicate that inappropriate sanctions were assigned. The degree of "inappropriateness" can easily be determined by subtracting such values from 10.

As in Experiment 1, a Lindquist Type VI analysis of variance was conducted on the ratings. A summary of this analysis appears in Table 7. The mean sanction ratings (AS) assigned to each stimulus item in each of the four orders of presentation are displayed in Table 8.

Order Effects

Table 7 reveals that the order of presentation had a significant and pervasive effect on the sanction ratings. The main effect, and virtually all of the interactions of Order with the other variables produced F ratios with associated probabilities less than the selected .05 level of significance. The interaction of Order with the Levels variable ($L \times O$) was the only exception. These findings were unexpected and, because of their scope and the complexity of the interactions involved, they defy meaningful psychological interpretation. An examination of Table 8 does little to clarify the situation. The differences among the grand means were considerably greater than were obtained in Experiment 1 (.99 versus .28), as were the differences among the means shown for each stimulus item. The only reasonable conclusion which can be drawn is that sanction judgments are far more sensitive to the order of presentation of these materials than are judgments of responsibility. In view of this, it is fortunate that the design provided a way of extracting this source of variance. In the following presentation the effects of Order are not considered. This decision was based on the arbitrary definition of Order as a control, rather than an experimental, variable.

Table 7

Summary of the Analysis of Variance for the
Sanction Ratings, Experiment 2

Source	df	Mean Square	F	p
<u>Total Between Ss</u>	<u>119</u>			
Order	3	155.37	8.73	*
Error	116	17.79		
<u>Total Within</u>	<u>3480</u>			
Levels (L)	4	2,039.41	284.04	*
Intensity (I)	1	2,776.64	538.15	*
Quality (Q)	1	3,775.64	474.92	*
L x I	8	273.02	56.88	*
L x Q	4	1,405.32	259.28	*
I x Q	2	15.25	2.13	N.S.
L x I x Q	8	355.92	79.62	*
L x O	12	3.70	.72	N.S.
I x O	6	53.33	6.71	*
Q x O	3	113.75	18.99	*
L x I x O	24	10.28	2.14	*
L x Q x O	12	16.93	3.12	*
I x Q x O	6	19.71	4.41	*
L x I x Q x O	24	15.70	2.62	
<u>Total Error Within</u>	<u>3364</u>		<u>M. S. Tested</u>	
error w ₁	464	7.18	L, L x O	
error w ₂	232	5.16	I, I x O	
error w ₃	116	7.95	Q, Q x O	
error w ₄	928	4.80	L x I, L x I x O	
error w ₅	464	5.42	L x Q, L x Q x O	
error w ₆	232	4.47	I x Q, I x Q x O	
error w ₇	928	5.99	L x I x Q	
			L x I x Q x O	
<u>Total for Experiment</u>	<u>3599</u>			

* $p < .05$

Table 8

Mean Sanction Ratings for Each Stimulus Item in each
of the Four Orders of Presentation

		Orders				
Item*		A	B	C	D	Total
I	+L	10.03	10.67	10.09	10.23	10.26
	+M	9.90	10.33	10.63	9.90	10.19
	+H	11.00	10.10	11.90	11.67	11.17
	-L	9.83	9.53	10.00	9.90	9.82
	-M	10.17	10.23	10.00	10.13	10.13
	-H	11.90	13.73	10.97	11.27	11.97
II	+L	11.27	12.03	10.50	10.73	11.13
	+M	9.97	10.03	10.17	9.83	10.00
	+H	11.03	11.40	11.40	11.23	11.27
	-L	10.03	10.13	10.07	10.00	10.06
	-M	10.17	11.23	11.13	10.87	10.85
	-H	12.37	13.60	12.13	10.53	12.16
III	+L	9.80	9.70	9.60	9.63	9.68
	+M	9.20	8.67	9.10	8.63	8.90
	+H	8.43	10.93	9.80	10.37	9.88
	-L	12.67	15.33	12.67	11.83	13.12
	-M	16.37	17.17	15.17	14.53	15.96
	-H	17.90	19.07	18.13	17.37	18.12
IV	+L	12.70	13.93	12.53	13.23	13.10
	+M	12.80	14.63	11.83	11.63	12.72
	+H	17.43	19.03	19.27	17.90	18.41
	-L	13.07	14.50	14.67	11.23	13.37
	-M	12.83	13.93	12.60	12.90	13.07
	-H	17.60	18.27	18.57	17.20	17.91
V	+L	8.93	9.33	9.33	9.87	9.37
	+M	12.27	13.03	11.07	11.80	12.04
	+H	11.60	11.83	11.23	12.47	11.78
	-L	12.13	11.97	12.17	11.63	11.97
	-M	14.27	14.37	14.57	12.80	14.00
	-H	18.90	18.47	17.90	16.93	18.05
Grand Mean		12.21	12.93	12.31	11.94	12.35
σ^2		13.84	13.12	12.36	12.79	

* The letters L, M and H refer to Low, Moderate, and High Outcome Intensity.
The plus and minus signs refer to Positive and Negative Outcome Quality.

Experimental Variables

The analysis of variance summarized in Table 7 shows that the experimental variables produced highly significant effects on the sanction ratings. Only the Intensity by Quality interaction failed to produce a significant F ratio. Incidentally, it is interesting to note that the experimental variables accounted for more than 95 per cent of the total variance, while Order, interactions involving Order, and error accounted for the remainder. In the following pages, the nature of the experimental effects will be examined and related to the hypotheses.

Hypothesis 1. Overall AS is significantly different over the five Levels, generally following the trend of AR.

The analysis of variance revealed that the Levels variable had a highly significant effect on the sanction ratings. Mean AS and AR for each Level is shown in Figure 7 and an examination of this figure indicates that the sanction ratings and responsibility ratings followed the same general trend, as was expected. It is also apparent that mean AS was lower than AR at every Level. The size of this difference increased progressively from Levels I through IV and diminished at Level V. These results have rich theoretical implications; however, caution must be exercised in interpreting them in view of the fact that the scale used in the second experiment differed in some respects from the scale used in Experiment 1.

Hypothesis 2. AS is significantly greater for Negative than for Positive outcomes.

The significant F ratio produced by Outcome Quality provides

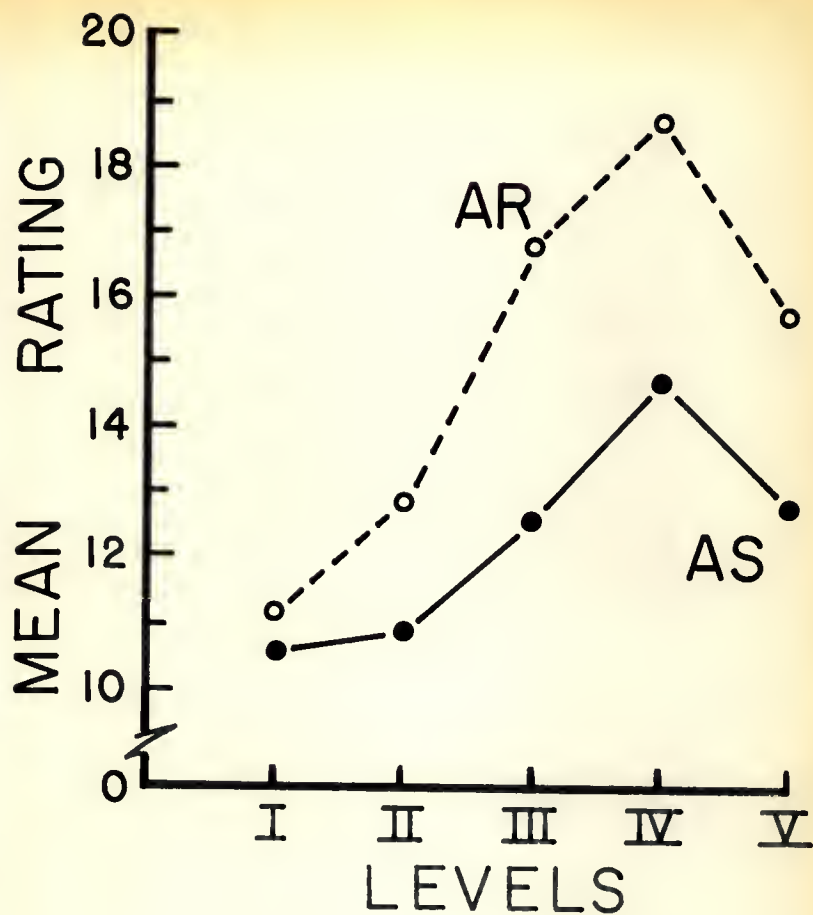


Fig. 7. Mean attribution of responsibility and assignment of sanctions at each Level.

general support for this hypothesis while the means shown at the bottom of Table 9 reveal that the difference was in the expected direction. The relationship between Outcome Quality and Levels will be considered under Hypothesis 4.

Hypothesis 3. AS increases as a positive function of Outcome Intensity.

The analysis of variance showed that Outcome Intensity had a significant effect on the sanction ratings. The means entered at the bottom of Table 10 reveal that the expected positive relationship between AS and Outcome Intensity was obtained. Mean AS for the Low, Moderate and High Intensity outcomes, respectively, were 11.19, 11.79 and 14.07. Comparisons of these means by t tests yielded significant values of 3.53 for the difference between Low and Moderate and 10.00 for the difference between Moderate and High ($df = 2348$, $p < .05$ in both cases). As was the case with the AR ratings, the magnitude of the difference increased as Outcome Intensity increased.

Hypothesis 4. A significant interaction is expected between Levels and Outcome Quality primarily due to greater differences between AS for Positive and Negative outcomes at Levels III and V than at the other Levels.

The analysis of variance revealed that the Levels by Quality interaction was highly significant. Figure 8, which shows mean AS for Positive and Negative Outcome Quality, indicates that the interaction was produced in the predicted manner. The results of Duncan's Multiple Range Test provide additional statistical support for the hypothesis.

Table 9

Mean Sanction Rating and Variance for Positive and Negative Outcomes at each of the Five Levels

Outcome Quality				
Level		Positive	Negative	Combined
I	\bar{X}	10.54	10.64	10.59
	σ^2	4.12	4.04	4.07
II	\bar{X}	10.80	11.02	10.91
	σ^2	4.11	5.02	4.57
III	\bar{X}	9.49	15.73	12.61
	σ^2	7.60	11.29	19.19
IV	\bar{X}	14.74	14.78	14.76
	σ^2	15.92	14.95	15.04
V	\bar{X}	10.94	14.67	12.87
	σ^2	8.28	14.43	14.60
Total	\bar{X}	11.33	13.37	12.35
	σ^2	11.19	14.23	13.75

Table 10

Mean Sanction Rating and Variance for Low, Moderate
and High Outcome Intensity at
each of the Five Levels

Level		Outcome Intensity		
		Low	Moderate	High
I	\bar{X}	10.04	10.16	11.57
	σ^2	1.12	1.44	8.24
II	\bar{X}	10.60	10.42	11.71
	σ^2	3.27	2.30	7.19
III	\bar{X}	11.04	12.43	14.00
	σ^2	7.26	21.11	25.93
IV	\bar{X}	13.23	12.90	18.16
	σ^2	7.65	14.13	6.04
V	\bar{X}	10.67	13.02	14.92
	σ^2	7.21	9.13	18.50
Total	\bar{X}	11.19	11.79	14.07
	σ^2	6.52	11.12	18.99

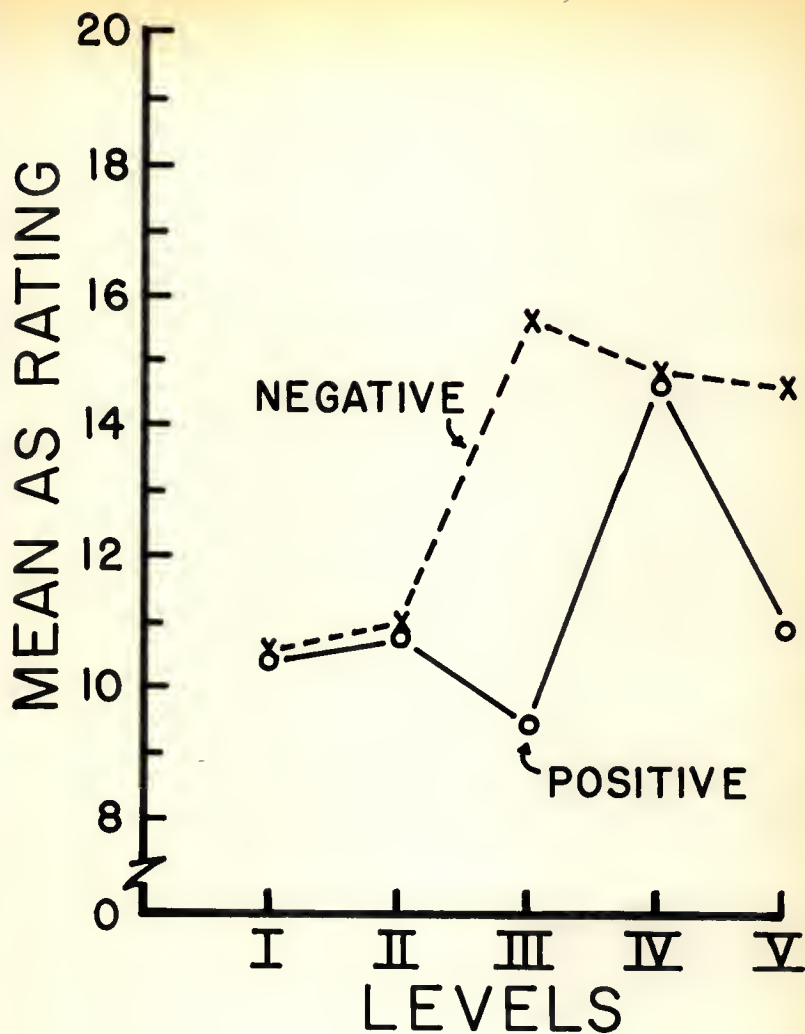


Fig. 8. Mean assignment of sanctions for Positive and Negative outcomes at each Level.

Mean AS for Positive and Negative outcomes was not significantly different at the Global Association (I), Extended Commission (II), and Purposive Commission (IV) Levels, but was significantly greater for Negative outcomes at the Careless Commission (III) and Justified Commission (V) Levels. A striking aspect of this relationship is that mean AS for Positive outcomes at Level III was less than 10. This indicates that the subjects felt that P should be mildly punished rather than rewarded for producing a good outcome carelessly. Unexpectedly, mean AS for Negative outcomes reached its peak at Level III and was almost a full scale value larger than at Level IV. At Level V the mean for Positive outcomes dropped far below its maximum value at Level IV, while the Negative mean showed only a slight (insignificant) drop. The exact mean values and variances for the relationships shown in Figure 8 are entered in Table 9.

Since AS for the High Negative outcome at Level IV was less than was anticipated, it seems likely that the item itself was at fault. All of the High Intensity Negative outcomes received maximum Intensity ratings in the pretest, but this particular item differed from the others in an important respect. Whereas all of the other High Negative items included loss of life or severe mutilation, the item at Level IV depicted P as intentionally causing the ouster of a college student. Apparently, this outcome was not perceived as sufficiently extreme to require maximum punishment.

Hypothesis 5. A significant interaction is expected between Levels and Outcome Intensity due to greater Outcome Intensity differences at Levels III, IV, and V.

The means and variances for Low (L), Moderate (M) and High (H) Intensity outcomes at each of the five Levels are entered in Table 10. The analysis of variance revealed that the Levels by Intensity interaction was highly significant. The means were compared by Duncan's Multiple Range Test. Figure 9 shows the relationship in graphic form. It is apparent that the hypothesis was generally confirmed since the greatest differences among the means were obtained at Levels III, IV and V, as was predicted. An examination of the means for Low and High outcomes clearly reveals that a significant positive relationship between AS and Intensity was obtained at all Levels and that the strength of the relationship generally increased from Levels I through IV, and decreased slightly at Level V. The means for Moderate outcomes, however, were located as anticipated (i.e., between the means for L and H) only at Levels III and V. It seems likely that the Moderate mean would have fallen between the means for Low and High at Level IV as well, if item IV-M had been properly controlled. This conclusion is reinforced by the fact that mean AS for the Moderate Positive item was 14.00.

Hypothesis 6. A significant interaction is expected between Outcome Quality and Outcome Intensity partly due to a ceiling effect for Negative outcomes. AS for Positive outcomes is expected to be a positively accelerated, increasing function of Outcome Intensity; for Negative outcomes a negatively accelerated, increasing function is expected.

The analysis of variance revealed that the Quality by Intensity interaction failed to achieve the required level of significance.

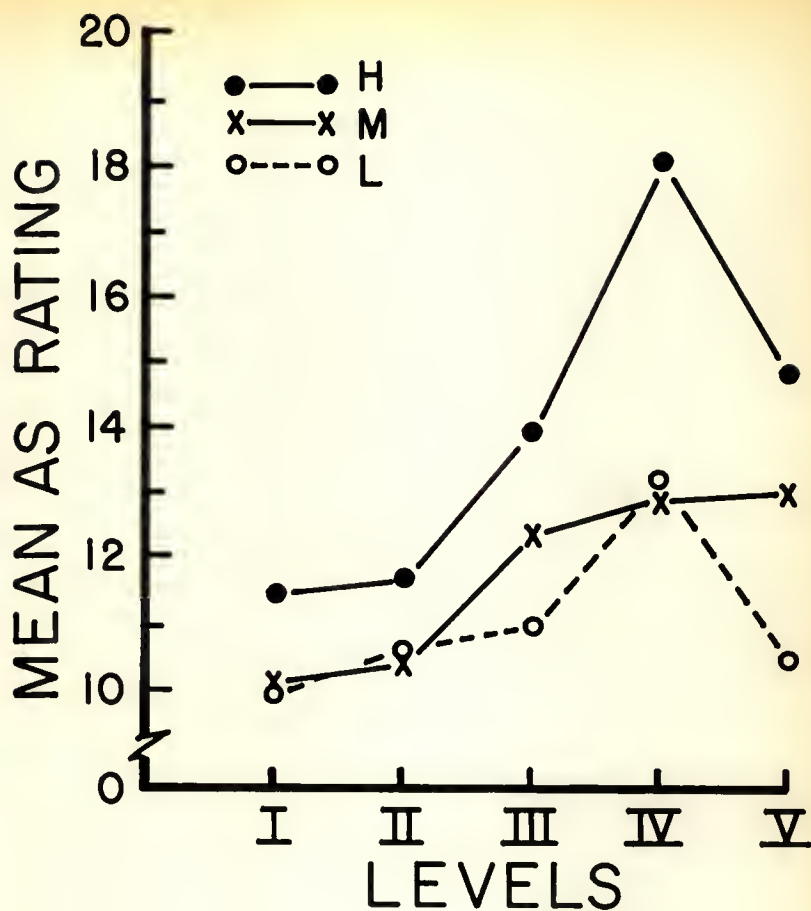


Fig. 9. Mean assignment of sanctions for Low (L), Moderate (M), and High (H) outcomes at each Level.

Table 11 shows mean AS and variance for the Positive and Negative outcomes at each Outcome Intensity. An examination of the means entered in this table indicates that AS for both Positive and Negative outcomes tended to be positively accelerated functions of Outcome Intensity.

Hypothesis 7. A significant interaction is expected between Levels, Outcome Quality and Outcome Intensity due to greater effects of Outcome Quality and Outcome Intensity at Levels III, IV and V.

The results of the analysis of variance indicated that the $L \times Q \times I$ interaction was statistically significant, thus providing general support for the hypothesis. Mean AS and variance for each combination of the experimental variables are entered in Table 12. Separate Multiple Range Tests were conducted in order to compare the means at each Level. Figure 10 shows the mean sanction ratings for each item in graphical form. From the relationships shown in this figure and the results of the multiple range comparisons it is apparent that the interaction was produced in the predicted manner. Generally, the differences among the Quality-Intensity combinations were much greater at the three higher Levels.

Since Figure 10 presents the findings in much more detail than did the other figures it reveals several relationships that are worthy of consideration. In general, it shows that assignment of sanctions was affected at least as much by outcome characteristics as by causal structure, particularly at the higher Levels. At Level I hardly any sanctions were assigned at all except for the High Intensity outcomes. This was only slightly less true at Level II. The means shown at Level III, however, reveal a dramatic contrast between AS for Negative and

Table 11

Mean Sanction Rating and Variance for Positive and Negative
Outcome Quality at Low, Moderate and
High Outcome Intensity

Outcome Intensity		Outcome Quality		
		Positive	Negative	Combined
Low	\bar{X}	10.71	11.67	11.19
	σ^2	6.01	6.58	6.52
Moderate	\bar{X}	10.77	12.80	11.79
	σ^2	8.13	12.07	11.12
High	\bar{X}	12.50	15.64	14.07
	σ^2	17.40	15.69	18.99
Total	\bar{X}	11.33	13.37	12.35
	σ^2	11.19	14.23	13.75

Table 12

Mean Sanction Rating and Variance for each Outcome Quality
and Intensity at each of the Five Levels

		Levels in Attribution				
Outcomes		I	II	III	IV	V
<u>Positive</u>						
Low	\bar{X}	10.25	11.13	9.68	13.10	9.37
	σ^2	1.13	5.90	1.70	8.11	3.68
Moderate	\bar{X}	10.19	10.00	8.90	12.72	12.04
	σ^2	2.04	0.49	8.14	12.52	7.80
High	\bar{X}	11.17	11.27	9.88	18.41	11.78
	σ^2	8.64	5.04	11.83	6.60	9.10
<u>Negative</u>						
Low	\bar{X}	9.82	10.06	13.12	13.37	11.97
	σ^2	1.02	0.09	6.21	7.23	7.37
Moderate	\bar{X}	10.13	10.85	15.96	13.07	14.00
	σ^2	0.86	3.78	9.13	15.79	8.61
High	\bar{X}	11.97	12.16	18.12	17.91	18.05
	σ^2	7.58	9.01	6.07	4.99	8.27
Grand Mean	\bar{X}	10.59	10.91	12.61	14.76	12.87
	σ^2	4.07	4.57	19.19	15.04	14.60

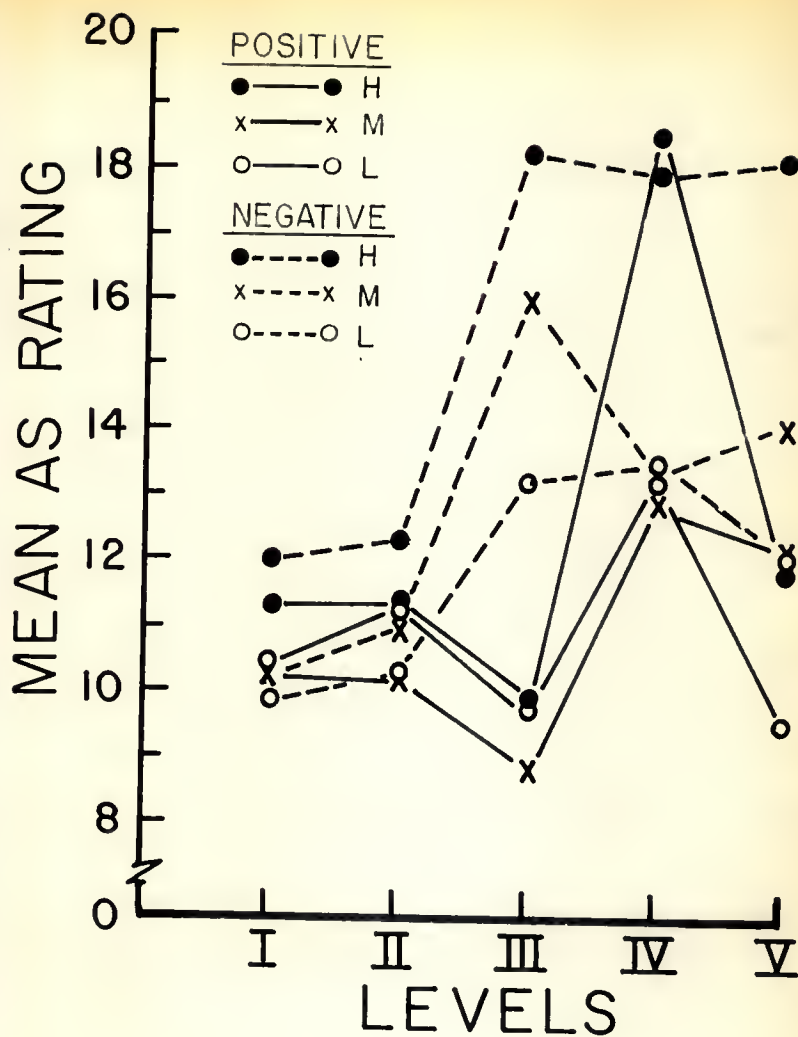


Fig. 10. Mean assignment of sanctions for each stimulus item at each Level.

Positive outcomes. High and Low Intensity Positive outcomes received objectively inappropriate sanction ratings of approximately the same amount, while AS for the Negative outcomes was much greater and showed a highly significant positive relationship with Outcome Intensity. At Level IV this relationship was disturbed by the failure of the Moderate Negative item to pull its expected rating, but it appeared quite clearly again at Level V. These differences among the means at the three higher Levels provide considerable support for the prediction that the sanction ratings would be less influenced by causal structure than by outcome characteristics.

Summary of Results of Experiment 2

Order Effects. The analysis of variance revealed that the order of presentation of the stories had a pervasive influence on the sanction ratings; however, these effects could not be meaningfully interpreted because of their complexity.

Structure Effects. As was expected, causal structure (Levels) produced mean AS ratings which followed the same trend as AR, but structure effects were less pronounced in the case of the sanction ratings.

Outcome Quality. In line with expectations, the mean amount of sanctions assigned to Negative outcomes was significantly greater than mean AS for Positive outcomes.

Outcome Intensity. Outcome Intensity had a significant effect upon the sanction ratings. The results showed that AS was a positively accelerated, increasing function of Outcome Intensity as was hypothesized.

Levels by Outcome Quality. As was expected, a significant interaction was obtained for Levels by Quality. Mean AS was almost identical for Positive and Negative outcomes at Levels I, II, and IV, but was reliably greater for Negative outcomes at Level III (Careless Commission) and Level V (Justified Commission). Inappropriate sanctions were assigned to Positive outcomes at Level III, whereas AS for Negative outcomes reached its maximum at this Level.

Levels by Outcome Intensity. As predicted, a significant interaction was obtained which indicated that AS was greater for High than for Low outcomes at all five Levels and that the difference was greatest at the Careless, Purposive and Justified Commission Levels. Mean AS for Moderate outcomes was less clearly in line with expectations, mainly because of low ratings assigned to the Moderate Negative item at Level IV.

Outcome Quality by Outcome Intensity. The analysis of variance revealed that the expected interaction between Quality and Intensity was not significant. This was the only hypothesis which failed to obtain substantial support.

Levels by Intensity by Quality. A significant second-order interaction was obtained. In keeping with the relevant hypothesis, differences among the ratings for the Quality-Intensity combinations were found at all Levels but were greatest at the three highest Levels. A strong positive relationship between AS and Intensity was apparent for Negative outcomes at Levels III and V. Mean AS for Positive outcomes showed only mild Intensity effects, reflecting the fact that they received relatively weak sanction ratings at all Levels, except at

Level IV, where the High Positive item produced slightly greater AS than did the High Negative item.

Discussion

The results suggest that if sanctions are assigned, outcome characteristics exert a stronger influence on the amount of sanctioning considered to be appropriate than does the causal structure under which the outcomes are produced. The major contribution of causal structure seems to be in determining whether or not sanctions will be assigned.

Outcome Quality had relatively little effect on AS at the Global Association (I) and Extended Commission (II) Levels, but exerted a strong influence on the ratings at Levels III and V. The greatest effect of Outcome Quality occurred at Level III (Careless Commission), where the amount of sanction assigned for Negative outcomes was much greater than for Positive outcomes and revealed a strong positive relationship with Outcome Intensity. The subjects showed a consistent reluctance to "reward" P for carelessly-produced Positive outcomes and, in fact, a slight tendency to "punish" him for these effects. Negative sanctions at this Level were expected to be rather susceptible to the influence of Intensity. The obtained relationships seem to confirm Piaget's observation that adults react harshly to carelessly caused damage and tend to "lose their tempers in proportion to the amount of damage done . . ." (1948, p. 127). The observed tendency to punish for carelessness that produces benefit to others was not expected, however, and it has less apparent basis in common sense. At first glance, it is difficult to see why rewards (albeit in small amounts) were assigned to P when he could not possibly have known that the benefit would occur

(i.e., at Level II), and yet not to reward him when he might have foreseen the benefit to O. Perhaps the explanation resides in the fact that benefit to O was foreseeable but, nevertheless, was produced carelessly (i.e., without thought of O). An examination of the three stories involved seems to support this interpretation. (See Appendix B for the complete stories.)

In the Low Intensity story, a little girl got an extra serving of ice cream and cake because P left the table to play just after the refreshments had been served. If P's behavior was perceived as impolite, or even thoughtless, this would explain the fact that the subjects felt he should be punished. In the Moderate Intensity story, P caused another salesman to get a bonus because he did not feel like driving to the next town to close a sale. It seems likely that punishment was assigned to P in this case because he was perceived as lazy or careless about his occupational commitments. In the High Intensity item, P's blind neighbors were saved from their burning house by the firemen P had called in concern about damage to his own house. In this case, he was almost certainly punished for his ruthless lack of concern for his neighbor's welfare and his selfish interest in his own property. The results obtained seem to warrant the conclusion that carelessness, in itself, is negatively valued in our culture and is therefore considered to require some degree of negative sanctioning regardless of the quality of the outcome which is produced.

At the Purposive Commission Level (IV) mean AS was closely clustered around a relatively low value, except for the two High Intensity items. Due to the operation of uncontrolled variables, two of the Negative items failed to pull their expected ratings; nevertheless, the

results clearly indicated that Outcome Intensity exerts a strong influence on sanction judgments even when P is depicted as intentionally causing the event. Outcome Quality, on the other hand, failed to show any striking effects upon AS at this Level. It must be tentatively concluded, therefore, that individuals are as willing to reward as to punish when the event is obviously produced intentionally.

At Level V (Justified Commission) the results revealed that both Outcome Quality and Intensity had powerful effects on the amount of sanction assigned. The differences among the mean ratings rather unequivocally dictate the conclusion that: (a) when the amount of coercive force is held relatively constant, P is sanctioned less for producing beneficial effects than for producing harmful effects; and (b) the amount of negative sanction considered appropriate increases with perceived seriousness (Intensity) of the outcome.

The results of this experiment lend themselves to the interpretation that individuals in our culture are expected to benefit one another. There is, therefore, no reason to reward them for good effects unless the benefit is so great, and produced under such clear-cut conditions of personal causality, as to appear extraordinary or even heroic. The High Intensity Positive story at Level IV, which was the only High Intensity Positive item to produce AS equal to the equivalent Negative item, seems to conform to what most people would regard as heroic. In this story, P left his position of safety and risked his life in order to save a number of children from a forest fire. On the other hand, bad effects seem to require punishment even when they are not intended or are produced under some form of coercion.

Recently, Solomon (1964) discussed the perennial controversy over

the relative merits of using punishment and reward in the control of behavior. He suggested that experimentation on the effects of punishment has been discouraged, in large part, by the "legend" that punishment inevitably produces disabling side effects such as rigidity and impaired cognitive functioning. Some writers (e.g., Skinner, 1948, 1961) doggedly maintain that positive reinforcement is a more effective means of control. This belief is in keeping with a humanitarian point of view, but, whether or not it is typical of psychologists, it is apparently not shared by most laymen. The results of the present study indicate that the tendency to punish is considerably stronger than is the tendency to reward. Whether one prefers to interpret this in terms of retributive counter-aggression or behavior control, one conclusion is unequivocally dictated. For the population represented here large amounts of reward are considered to be appropriate only for extraordinarily positive action outcomes. It remains to be seen whether this finding is restricted to hypothetical situations such as were used in the present experiments.

The findings reported here argue against Piaget's (1932, 1948) somewhat idealistic conclusion that moral judgments of this sort are made in accordance with a rather sophisticated consideration of the actor's intentions and motives. They do indicate, however, that moral judgments are strongly influenced by culturally derived expectations, and that the primary utilization of sanctions is in punishing individuals who fail to act in accordance with these expectations. The major evidence of rational considerations appears in deciding whether or not P is open to sanctioning and (if he is) in the tendency to make "the punishment fit the crime."

CHAPTER V

SUMMARY AND CONCLUSIONS

The purpose of the research reported in these pages was to evaluate the effects of causal structure and outcome characteristics upon attribution of responsibility and sanction assignment. Causal structure was represented by stories which were modelled upon Heider's (1958a) Levels of Responsibility Attribution. The two outcome characteristics, quality and intensity, were based upon ratings made by subjects drawn from the target population. It was generally hypothesized that the amount of responsibility attributed (AR) to an individual (P) for an action outcome would be principally determined by the causal structure within which the outcome was produced, and that outcome characteristics would exert a detectable, but less powerful, influence. The results from the first experiment provided unequivocal support for these general expectations, although all of the more detailed hypotheses were not supported. The second major set of hypotheses concerned the effects of these same variables upon the assignment of sanctions (AS). In this case, it was hypothesized that outcome characteristics were the primary determinants and that causal structure would play a somewhat secondary role. The results from the second experiment partially confirmed these expectations but showed that the general trend of AS over the different Levels was fairly similar to AR. These findings and the conclusions drawn from them will be briefly summarized in the following sections.

Attribution of Responsibility

In Experiment 1, significant effects were found for Levels (L), Outcome Quality (Q) and Outcome Intensity (I) and for all of the interactions among these variables, except for the interaction between Outcome Quality and Intensity. As expected, relatively small amounts of responsibility were attributed at the Global Association and Extended Commission Levels, where the link between P and the final outcome was weak and involved no possibility that he intended to harm or benefit the object person (O). At the Careless and Purposive Commission Levels, however, P was held highly responsible for producing the outcome. An unexpected finding was that P was held equally responsible for harmful acts at these two Levels. Two possible explanations were offered. The first assumes that ambiguity in the Level III (Careless Commission) structure allowed the subjects to infer that P did intend to harm O, in which case the Level III and Level IV (Purposive Commission) structures would have been perceived as identical. The second alternative assumes that carelessness is negatively valued in our culture and that P was seen as "legally" responsible because of his failure to consider the probable consequences of his behavior.

Although these alternatives are not mutually exclusive, it was pointed out that the second alternative would be favored if the sanction ratings for Negative and Positive outcomes at Level III showed even greater differences. (Large differences at this Level were obtained in Experiment 2.)

At Level V, where P was depicted as causing the final outcome under coercive circumstances, AR was much less than at Levels III and IV. This was interpreted as indicating that P's actions were perceived

as justified to some extent. The amount of responsibility attributed at this Justified Commission Level was highly related to outcome characteristics. Generally, much less responsibility was attributed for Positive than for Negative outcomes, and AR showed a strong positive relationship with Outcome Intensity. These findings suggest that the amount of perceived justification is jointly determined by the strength of the coercive force and the quality and intensity of the outcome.

The results confirmed the expectation that causal structure (as represented by Heider's Levels) is the primary determinant of responsibility attribution. Apparently, however, attribution is highly sensitive to the perceived quality and intensity of the effects for which responsibility is assessed. The influence of outcome quality on AR was interpreted as indicating that less responsibility is attributed for actions which are congruent with culturally derived "Ought" forces than are actions which occur in opposition to these normative standards. It seems likely that greater intentionality (and less justification) is inferred when the individual must overcome these forces to produce a given outcome.

Outcome intensity has its greatest effects when the structure encourages a consideration of the motives underlying P's actions. With motive and outcome quality held constant, more personal responsibility is attributed as outcome intensity increases. Apparently, the degree of benefit or harm which results from P's actions is one of the major determinants of perceived justification.

Assignment of Sanctions

In Experiment 2, as in Experiment 1, significant effects were

found for Levels, Outcome Quality, Outcome Intensity and all interactions among these variables except for the interaction between Q and I.

(Although significant interactions were also obtained between these variables and Order of presentation, these findings are excluded from the present summary.) Virtually all of these effects were produced in the manner set forth in the detailed hypotheses. The effects of causal structure were most clearly demonstrated at the Global Association and Extended Commission Levels, where fewer subjects assigned sanctions than at the higher Levels. This had the effect of reducing the apparent influence of outcome characteristics at Levels I and II and supports the contention that sanctions are not assigned in cases where P is not considered responsible. At Levels III (Careless Commission), IV (Purposive Commission) and V (Justified Commission), the influence of causal structure was revealed in the differences among the outcome effects .

At Level III, negative sanctions (punishment) were assigned for both harmful and beneficial effects; however, AS was much greater for harmful outcomes and showed a significant positive relationship with Outcome Intensity. These relationships suggest that carelessness is negatively valued in our culture (as was suggested earlier) and, therefore, that such behavior is seen as deserving punishment regardless of the quality of the event produced. At the Purposive Commission Level, virtually all subjects assigned sanctions but there were no apparent differences attributable to Outcome Quality. (This was partly due to the fact that the Moderate-Negative item included uncontrolled variables.) Relatively weak sanctions were assigned to all but the two High Intensity outcomes. Mean AS for the High Intensity Positive item at this Level was the only positive mean to exceed the Grand Mean for the experiment.

Apparently, a large amount of reward is considered to be appropriate only when the action is perceived as heroic, i.e., extreme benefit produced under clear-cut conditions of personal causality. At the Justified Commission Level, very small sanctions were assigned to Positive outcomes; however, mean AS for Negative outcomes was much greater and revealed a positive relationship with Outcome Intensity which was even stronger than was found for AR in Experiment 1.

The results of Experiment 2 seem to confirm the expectation that sanction assignment is primarily determined by outcome characteristics. It is obvious, however, that these effects are not independent of causal structure. At every Level the influence of Outcome Quality and Intensity was demonstrated in a different manner and degree. This suggests that the tendency to sanction as well as the amount of sanction assigned are functions of virtually all of the variables contained in action-outcomes. In the following section an attempt will be made to differentiate the effects of these variables on responsibility attribution and the assignment of sanctions.

Attribution of Responsibility and Assignment of Sanctions

Separate experimental evaluations were made of responsibility attribution and sanction assignment on the assumption that they are not identical judgmental processes and that therefore they should be differently affected by the experimental variables. The obtained results tend to support this assumption. It was further proposed that responsibility attribution determines whether an agent is open to sanctioning, but does not determine whether sanctions will be assigned to him nor the amount of sanctions which may be assigned. This general proposition provided part of the rationale for the expectation that sanction judgments were

primarily determined by the quality and intensity of the outcome. In this concluding section we will examine some of the results which are related to the assumed relationship between AR and AS.

A quantitative summary of all of the major findings is provided by Table 13, which shows the mean ratings obtained for the abstract structures, outcomes, AR and AS for each item. Although linear relationships were not expected between any of the variables except abstract structures and AR, a correlational assessment produces some interesting results. The means shown in Table 13 were rank-ordered to provide a basis for computing Spearman rank-difference correlation coefficient (ρ). This procedure has been described by Guilford (1956), who also provides a table for evaluating significance levels of these coefficients.

The rank-difference correlation coefficient between the abstract ratings and AR was found to be .864 ($p < .01$), indicating a highly significant positive relationship, as was expected. For the abstract ratings and AS a surprisingly large coefficient was also obtained ($\rho = .679$, $p < .01$). These values seem to indicate that both content AR and AS were highly related to abstract AR. Continuing the comparison, rank-difference coefficients were computed between the outcome ratings and both dependent variables, yielding a ρ of .156 for outcomes and AR, and a ρ of .228 for outcomes and AS ($p > .05$ in both cases). Finally, a highly significant coefficient was obtained for the relationship between AR and AS ($\rho = .845$, $p < .01$).

The results of the comparisons apparently indicate that responsibility attribution and sanction assignment are highly similar processes and that they are strongly affected by structure, but not by outcome characteristics. However, these conclusions are contradicted

Table 13

Mean Ratings for Abstract Structure, Outcome, Responsibility
and Sanctions for each Stimulus Item

Item	Abstract Structure ^a	Outcome	Responsibility	Sanctions ^b
I				
+L	(.26)	.25	1.57	.26
+M	(.22)	4.70	1.26	.19
+H	(1.39)	10.00	1.22	1.17
-L	.26	.75	.54	.18*
-M	1.22	5.00	1.40	.13
-H	1.39	10.00	1.29	1.97
II				
+L	.96	1.00	3.58	1.13
+M	2.09	4.00	1.53	.00
+H	2.09	10.00	5.96	1.27
-L	1.47	1.00	.90	.06
-M	1.43	5.70	2.75	.85
-H	2.22	10.00	2.58	2.16
III				
+L	(7.52)	.57	5.72	.32*
+M	(7.52)	5.10	4.11	1.10*
+H	(7.52)	10.00	4.18	.12*
-L	7.52	1.00	8.84	3.12
-M	7.52	5.90	8.59	5.96
-H	7.52	10.00	9.46	8.12
IV				
+L	(10.00)	.57	9.10	3.10
+M	(10.00)	5.90	8.69	2.72
+H	(10.00)	10.00	9.23	8.41
-L	10.00	.71	9.11	3.37
-M	10.00	5.30	7.20	3.07
-H	9.05	10.00	9.16	7.91
V				
+L	5.13	1.14	2.29	.63*
+M	8.57	5.00	6.67	2.04
+H	5.13	10.00	5.34	1.78
-L	7.26	.57	5.37	1.97
-M	7.26	5.10	6.01	4.00
-H	8.57	10.00	8.95	8.05
Grand Mean	4.99	5.31	5.09	2.51

^aParentheses indicate that the structure rating is available for negative outcome only.

^bAsterisks indicate that AS was objectively inappropriate.

by the fact that the outcome variables produced highly reliable (but different) effects in both experiments. The key to this apparent contradiction resides in the fact that the correlation coefficients do not provide information about the different manner in which they were produced, nor about the interactions among the Levels and outcome variables. An evaluation of these effects was, of course, provided by the analysis of variance and other analyses which were conducted for each experiment. In view of the differences in function between the two methods (i.e., correlational and analysis of variance) it seems best to draw conclusions from the more detailed information. Nevertheless, the indication that AR and AS are highly related judgmental processes should not be ignored since it was explicitly assumed that AR determines whether sanctions may be legitimately assigned.

A detailed comparison between responsibility attribution and sanction assignment is provided by Table 14, which shows mean AR, mean AS and the percentage of subjects in each experiment who attributed responsibility or assigned sanctions to P. (In this table mean AR and AS are on the same scale and inappropriate sanctions are identified by asterisks.) On the basis of the information entered in this table it is obvious that the two sets of ratings were not as similar as the correlation coefficients seem to indicate. It is apparent that many subjects did not assign sanctions to P under conditions where he was rather clearly seen as responsible for producing the outcome. In only a few cases was the percentage of subjects who assigned sanctions as great as the percentage who indicated that P was responsible. Generally speaking, the tendency to attribute responsibility was almost universal at Levels III and IV and was not greatly affected by outcome characteristics

Table 14

Mean AR, Mean AS and Percent of Subjects who Attributed Responsibility and Assigned Sanctions for each Stimulus Item

Item	Attribution of Responsibility		Assignment of Sanctions	
	Mean AR	Percent	Mean AS	Percent
I	+L	1.57	.26	7.5
	+M	1.26	.19	17.5
	+H	1.22	.17	17.5
	-L	.54	.18*	5.8
	-M	1.40	.13	7.5
	-H	1.29	1.97	52.5
II	+L	3.58	1.13	35.0
	+M	1.53	0.00	9.2
	+H	5.96	1.27	39.2
	-L	.90	.06	4.2
	-M	2.75	.85	24.2
	-H	2.58	2.16	46.7
III	+L	5.72	.32*	13.3
	+M	4.11	1.10*	41.7
	+H	4.18	.12*	66.7
	-L	8.84	3.12	95.0
	-M	8.59	5.96	99.2
	-H	9.46	8.12	99.2
IV	+L	9.10	3.10	87.5
	+M	8.69	2.72	76.7
	+H	9.23	8.41	99.2
	-L	9.11	3.37	87.5
	-M	7.20	3.07	65.0
	-H	9.16	7.91	100.0
V	+L	2.29	.63*	30.0
	+M	6.67	2.04	52.5
	+H	5.34	1.78	63.3
	-L	5.37	1.97	49.2
	-M	6.01	4.00	85.8
	-H	8.95	8.05	96.7

* An asterisk indicates that AS was "inappropriate," i.e., punishment for a positive outcome or reward for negative outcome.

at any Level. The tendency to sanction, on the other hand, was highly sensitive to Outcome Quality and Intensity and appeared to be strongest where High Intensity outcomes were involved. Willingness to hold P responsible and to sanction him were most nearly equal at Level III (for Negative outcomes) and at Level IV. It was also at these Levels that mean amount of AR and AS were in closest agreement.

The relationships shown in Table 14 indicate that responsibility attribution and sanction assignment are not identical judgmental processes. They also provide strong support for the contention that attribution of responsibility determines whether P is open to sanctions but does not determine how much sanctioning (if any) will be considered appropriate. The only points at which this conclusion is not supported are when carelessly produced negative events, or (to a lesser extent) intentionally produced events are involved. While this could be interpreted as indicating that causal structure, or responsibility, does determine the amount of sanctioning at these Levels, an alternative interpretation suggests itself. Quite frankly, this alternative is based on the assumption that Outcome Intensity determines the amount of AS at all Levels. Although it is highly speculative, it is offered in an attempt to "homogenize" the data.

In discussing the Careless Commission Level in Experiment 2 it was suggested that carelessness, in itself, is negatively valued in our culture. This conclusion was supported by the fact that P was hypothetically punished rather than rewarded for carelessly produced positive outcomes. If this conclusion is valid, the Level III structure, in which careless behavior is portrayed, should have the effect of increasing perceived outcome intensity, particularly in the negative direction.

This might also be true of the Level IV structure; i.e., an event which is produced intentionally may seem worse than one which involves less personal causality.

Some empirical support for this interpretation can be drawn from other studies of moral judgment. Pepitone (1958), Johnson (1962), and Piaget (1932, 1948) have all noted that acts are considered to be worse when the actor intended to produce a negatively valued outcome. Of even greater relevance are the studies in which respondents have ranked behavioral situations on "goodness" and "badness" dimensions. Because these studies lack theoretical frames of reference the items typically include both outcome (harm and benefit) and causal variables. Crissman (1942), McGarvey (1943), and Ekman (1962) have all conducted research of this type. An examination of their results reveals that when similar negative outcomes are involved, intentional acts are given higher badness ratings than outcomes which might have been produced accidentally or under justifying circumstances. Systematic research is needed to specify the role played by causal structure in making such judgments; nevertheless, the available evidence strongly suggests that causal variables are intimately involved in ordinary judgments of outcome quality and intensity.

Outcomes which are measured as discrete effects may yield values which differ from measurements made when a full behavioral (i.e., causal) context is present. In the present study, it was necessary to evaluate discrete outcomes so that their effects upon the dependent variables could be meaningfully interpreted. Given the results reported here, it would be helpful to know how outcome judgments are affected by the Levels variables and how they differ from sanction assignment. If variables

such as carelessness, intentionality, and justification have the expected effect of increasing perceived outcome intensity, the correlation between intensity and sanction ratings should be significantly greater than the coefficient obtained in the present experiment.

Conclusions

The foregoing results indicate that responsibility attribution and sanction assignment are affected differently by causal structure and outcome characteristics. Responsibility attribution appears to be largely determined by causal structure but is also influenced in a fairly predictable manner by the character of the events for which responsibility is assessed. The assignment of appropriate sanctions was found to be more strongly affected by outcome characteristics; nevertheless, these judgments also showed a complex relationship with causal structure, both in regard to the willingness to sanction and in the amount of sanction assigned. Since these two judgmental processes constitute basic elements in many kinds of moral and interpersonal behavior it is hoped that the findings reported here provide something of value for future research and theory.

The main purpose of the present study was to produce a more substantial empirical base upon which subsequent theoretical developments might proceed. Heider's (1958a) statement of the Levels in Responsibility Attribution was utilized more as an empirical tool than as a theoretical framework. Consequently, relatively little attention has been paid to the theoretical adequacy of his formulations. As an empirical instrument the Levels approach obviously provides a fairly stable structural basis for studying other variables involved in responsibility attribution. With relatively little additional work the

instrument used in these experiments could be adapted to the study of individual differences in responsibility attribution and other forms of moral judgment. Since responsibility attribution involves the identification of the causal locus of social events, the utility of this instrument could be greatly increased by requiring the subjects to respond in terms of the relative amount of responsibility which should be attributed to the primary person P, to the object person O, and to the environment. It is likely that the degree to which an individual tends to attribute responsibility to persons (e.g., self and socially significant others) and to the environment may be highly related to such personality variables as dependency, autonomy, ego strength, authoritarianism and styles of aggression, as well as to many variables involved in interpersonal perception and social interaction.

Another area of research which could benefit from an extension of the present findings is psychological jurisprudence. The task of a trial jury essentially involves attribution of responsibility or the determination of the accused's openness to sanction. Apart from his role as a referee, the judge's most important decisions relate to the assignment of appropriate sanctions. Thus, it is not unlikely that an experimental analysis in terms of the variables identified in this paper could make a significant contribution to the understanding of these complex processes. However, existing theoretical treatments of responsibility attribution are in need of formalization and detailed development so that subsequent findings may be integrated and more meaningfully related.

APPENDICES

APPENDIX A
INSTRUCTIONS

APPENDIX A-1

Instructions for Abstract Structure Ratings

Turn over the sheets you have been given and fill in the information asked for on the first line. Do not make any other marks on the page until I instruct you to do so.

I am going to show you a number of slides which describe some events in rather abstract terms. Each story contains a central person referred to only as "P." Your task is to read each story carefully and then decide whether person P is responsible for the specified event. If a person is responsible for something that means we might praise or blame him for it.

If you think P is not responsible write "No" in the blank and circle the zero. If you think that P is responsible for the specified event, write "Yes" in the blank and circle one of the numbers to indicate how responsible he is. If you think he is only a little responsible, circle the number "one." If you think he is completely responsible circle the "ten." The larger the number circled the more responsible you think P is.

Take your time and make your decisions carefully. The significance of this research depends upon your cooperation.

Are there any questions? If you don't understand something, tell me now because I want complete quiet once we get started. Okay?

All right, here is the first story. Read it and decide if P is responsible. If not, write "No," if so, write "Yes" and circle one of the numbers to indicate how much.

Note: The experimenter read each story aloud to pace the task and make sure that all subjects understood the story.

APPENDIX A-2

Instructions for Outcome Ratings

The sheets I have given you contain a number of short sentences. Each sentence describes something that happens to one or more persons.

Your task is to read each sentence carefully and then decide whether you think what happened is good, i.e., favorable, or bad, i.e., unfavorable. If you think it is good put a plus sign in the blank. If you think it is bad enter a minus sign. If you think the event is neither good nor bad, then enter a zero in the blank.

If you decide that is is good or bad you should then circle one of three numbers to indicate how good or bad you think it is. If you think it is very good or bad circle the ten, if you think it is moderately good or bad circle the five, if you think it is only a little good or bad circle the one. Just ignore the other numbers; you are to use only the one, five, and ten to indicate degree of goodness or badness.

I'd like you to consider each sentence carefully before reaching a decision. Don't try to make any tricky inferences. Just rate the sentences on the basis of the information they contain. I'm not trying to pull anything sneaky; I just want to know how good or bad these things seem to you, so be as honest as you can.

When you have finished rating all of the sentences please sit quietly until the other people are finished. You can go back and erase and change ratings if you wish.

Are there any questions? If you don't understand something tell me now because I'd like complete quiet once we get started. Of course if you run into a real problem you can come up front to ask me about it. Okay?

All right, read the first sentence and indicate how good or bad it seems to you.

APPENDIX A-3

Instructions for Attribution of Responsibility Ratings (Experiment 1)

Turn over the sheets you have been given and fill in the information asked for on the first line. Don't make any other marks on the page until I instruct you to do so.

The sheets you have been given contain thirty short stories describing some events that might involve actual people. Each story contains some central person referred to only as "P." Your task is to read the story carefully and then decide whether person P is responsible for the specified event. If a person is responsible for something that means we might praise or blame him for it.

If you think P is not responsible for the specified event, write "No" in the blank under the story, circle the zero and then go on to the next story. If you think that P is responsible for the specified event, write "Yes" in the blank and then circle one of the numbers to indicate how responsible he is. If you think he is only a little responsible then circle the number one. If you think he is completely responsible circle the ten. If you think he is less responsible then circle one of the other numbers to indicate how much. The larger the number circled the more responsible you think he is.

Take your time and make your decisions carefully. The significance of this research depends upon your cooperation. When you have finished check through to see that you haven't missed any items. Then sit quietly until the others are finished. You may go back and change ratings if you wish.

Are there any questions? If you don't understand something, tell me now because I want complete quiet once we get started. Okay?

All right, read the first story and decide if P is responsible. If so, indicate how much by circling one of the numbers under the story.

Remember to write "No" and circle the zero if you think P was not responsible at all. Write "Yes" and circle one of the numbers other than zero if you think he was responsible.

APPENDIX A-4

Instructions for Sanction Ratings (Experiment 2)

Turn over the sheets you have been given and fill in the information asked for on the first line. Don't make any other marks on the page until I instruct you to do so.

The sheets you have been given contain thirty stories describing some events that might involve actual people. Each story contains some central person referred to only as "P."

Your task is to read each story and then decide whether you think person P should be rewarded or punished for the final event described in the story. For the most part, these events involve something that happens to other people.

If you think that P should be neither rewarded nor punished write "No" in the blank under the story, circle the zero and then go on to the next story.

If you think that P should be rewarded for what happened put a plus sign in the blank. If you think P should be punished for what happened put a minus sign in the blank.

After you have entered a plus or minus sign then circle one of the numbers to indicate how much P should be rewarded or punished. If you think he should only be punished or rewarded a very little bit then circle the number one. If you think he should be rewarded or punished a maximum amount (that is, the maximum amount you would impose) circle the number ten.

If you think the appropriate amount of reward or punishment lies between these extremes, circle one of the other numbers to indicate exactly how much. The larger the number the larger the amount of reward or punishment you think P should get.

Before you begin you should try to get an idea of what you might consider to be a maximum punishment and reward and also a minimum punishment and reward. This will help you to decide on the amounts appropriate for each event.

Take your time and make your decisions carefully. The significance of this research depends upon your cooperation. When you have finished check back through your paper to see that you haven't omitted any item, then sit quietly until the others are finished.

Are there any questions? If you don't understand something tell me now because I want complete quiet once we get started.

Okay? Read the first story; decide if P should be rewarded or punished for the final event. If so, indicate which by a plus or minus sign and how much by circling one of the numbers under the story. Write "No" and circle the zero if you think P should be neither rewarded nor punished.

If you have an important question, come up front and ask me quietly.

APPENDIX B
STIMULUS MATERIALS

APPENDIX B-1

Story Structures Selected for Inclusion in the Final Stimulus Materials

Level I Global Association

1. Used for I+L, I-L; mean = .26, σ^2 = .29.
Person P is person O's friend.
O harms (benefits) X.
2. Used for I+H, I-H; mean = 1.22, σ^2 = 5.61.
Person P owns an object.
Person O used the object to harm (benefit) X.
3. Used for I+M, I-M; mean = 2.22, σ^2 = 3.09.
Person P is a member of group G.
Group G harms (benefits) X while P is absent.

Level II Extended Commission

1. Used for II+H, II-H, II+M; mean = 2.22, σ^2 = 3.09.
Person P intentionally causes an event.
By rare chance the event harms (benefits) X.
2. Used for II+L, II-L; mean = 1.47, σ^2 = 1.99.
Person P intentionally causes event I.
Event I causes event II.
By rare chance event II harms (benefits) X.
3. Used for II-M; mean = 1.43, σ^2 = 1.98.
Person P intentionally causes a physical event.
By rare chance the event harms X.

Level III Careless Commission

1. Used for all Level III stories; mean = 7.54, σ^2 = 3.85.
Person P carelessly causes an event.
As P might have foreseen, the event harms (benefits) X.

Note: The structure of some of the Level III stories (see Appendix B-3) included an element which was not in the abstract stories, namely that P caused the event in order to benefit himself.

Level IV Purposive Commission

1. Used for IV-H; mean = 9.65, σ^2 = .60.
Person P dislikes X.
P harms X intentionally.

2. Used for all other Level IV stories; mean = 10.00, $\sigma^2 = 0.0$.
 Person P harms (benefits) X intentionally.

Level V Justified Commission

1. Used for V+M, V-H; mean = 8.57, $\sigma^2 = 4.08$.
 Person P likes person O.
 X harms (benefits) person O intentionally.
 P harms (benefits) X intentionally.
2. Used for V-M, V-L; mean = 7.26, $\sigma^2 = 3.84$.
 Person O threatens to harm P if he doesn't harm X.
 P harms X.
3. Used for V+H; mean = 7.83, $\sigma^2 = 4.79$.
 All of Person P's group are benefitting X.
 P's group threatens to expel him if he doesn't help them.
 P helps his group benefit X.
4. Used for V+L (no mean available).
 P's group threatens to expel him if he doesn't benefit X.
 P benefits X.

APPENDIX B-2

Outcomes Selected for Inclusion in Final Stimulus Materials

<u>Low Intensity - Positive Quality</u>	<u>\bar{X}</u>
1. A woman gets a free sample box of soap powder.	.25
2. A man finds a book he had lost.	No Rating
3. A girl gets an extra serving of ice cream and cake at a party.	.57
4. An old man gets a free newspaper.	.57
5. A man gets an extra coffee break.	1.14

<u>Low Intensity - Negative Quality</u>	<u>\bar{X}</u>
1. A sailor gets a blister on his hand from a rope he is handling.	-.75
2. An old man gets mud on his best shoes.	-1.00
3. A man has to change a flat tire.	-1.00
4. A housewife has to drive an extra day in her car pool.	-.71
5. A teacher has to give a make-up test.	-.57

<u>Moderate Intensity - Positive Quality</u>	<u>\bar{X}</u>
1. A boy gets to go on a fishing trip with his father.	4.7
2. A boy gets to meet and have lunch with a famous astronaut.	4.0
3. A man sells a large order and gets a cash bonus.	5.1
4. A student gets an interesting job.	5.9
5. A farm worker is made foreman on a ranch.	5.0

<u>Moderate Intensity - Negative Quality</u>	<u>\bar{X}</u>
1. A number of children have to walk home 5 miles in the rain.	-5.0
2. A woman is hit by a falling brick.	-5.7
3. A little girl gets small pox.	-5.9
4. A man loses his job.	-5.3
5. A man is refused a promotion he had been promised.	-5.1

<u>High Intensity - Positive Quality</u>	<u>\bar{X}</u>
1. A woman is saved from being mutilated by a milling machine.	10.0
2. A man wakes up in time to escape asphyxiation in a smoke-filled room.	10.0

High Intensity - Positive QualityX

- | | |
|---|-----------|
| 3. A busload of school children are saved from a forest fire. | 10.0 |
| 4. A boy gets some snake bite serum in time to change his life. | 10.0 |
| 5. A blind couple are rescued from their burning house. | No Rating |

High Intensity - Negative QualityX

- | | |
|--|-------|
| 1. A boy breaks his neck in a fall from a tree. | -10.0 |
| 2. A student is wrongly accused of cheating and forced to leave college. | -10.0 |
| 3. An entire family of people dies in an explosion. | -10.0 |
| 4. A woman is defaced horribly by acid. | -10.0 |
| 5. A man falls overboard and drowns. | -10.0 |

APPENDIX B-3

Stimulus Materials Classified by Level, Outcome Intensity
and Outcome Quality

- I +L P and his friend were distributing free samples of a new soap powder. P's friend gave a sample to a woman he met on the street.

Is P responsible for the woman getting the sample box of soap powder?^a

_____ 0 1 2 3 4 5 6 7 8 9 10^b

- I +M P is a member of a men's club. While P was out of town his club arranged for a man to take his son fishing.

Is P responsible for the boy getting to go fishing with his father?

- I +H A man was walking down an assembly line with a large wrench which he had borrowed from P. Suddenly the man saw that a woman had caught her sleeve in the gears of a milling machine and was being pulled into the machine. The man stopped the machine by thrusting P's wrench between the gears. If the machine had not stopped the woman would have been severely mutilated.

Is P responsible for the woman not being mutilated?

- I -L P and his friend were helping a sailor stretch out a heavy mooring rope so that it could dry. P's friend pulled the rope too hard and the sailor got a blister on his hand.

Is P responsible for the sailor getting a blister on his hand?

- I -M P belongs to a group of bus drivers. One day while P was absent the group decided to go out on strike for higher wages. As a result, a number of school children had to walk home five miles in the rain.

^aThis line was omitted from stimulus materials used in Experiment 2.

^bThis scale appeared under each item.

Is P responsible for the children having to walk home five miles in the rain?

- I -H Two boys were playing in a tree house high above the ground. One of the boys struck the other boy with an old army saber he had borrowed from P and the boy fell from the tree and broke his neck.

Is P responsible for the boy breaking his neck?

- II +L P asked his neighbor to give him some old magazines so that he could take them to a hospital ward. The neighbor went up to his attic to get the magazines and while he was there he found a book he had misplaced weeks before.

Is P responsible for the neighbor finding his lost book?

- II +M P was supposed to meet a boy down town. He told the boy he would pick him up at a bus stop in front of a theater. While he was waiting there for P the boy struck up a conversation with a famous astronaut who invited the boy to have lunch with him.

Is P responsible for the boy getting to have lunch with the famous astronaut?

- II +H P was conducting a survey by telephone. On one of his calls the phone rang in an apartment which was filled with gas from a faulty heater. The ringing phone woke a man who was sleeping near the heater. If he had not awakened he would have died from asphyxiation.

Is P responsible for the man waking in time to escape asphyxiation?

- II -L P signalled to a taxi to cross the street and pick him up. An old man was walking by and as the taxi pulled up to the curb it splashed mud on the old man's shoes.

Is P responsible for the old man getting mud on his shoes?

- II -M P was demolishing an old brick wall on a dead end street. A woman suddenly turned her convertible into the street by mistake. She stopped it near the wall where she was hit by one of the falling bricks.

Is P responsible for the woman being hit by the falling brick?

- II -H P was working on the air raid alarm system in a chemical plant. He tried the switch and the horn emitted a loud blast. A woman chemist who was working in a nearby building was startled by the sudden noise and dropped a container of acid. The acid splashed on her and she was horribly defaced.

Is P responsible for the woman being defaced by the acid?

- III +L At a birthday party P left the table to play with the toys because he did not want the ice cream and cake which had just been served. As a result one little girl got to eat an extra serving of ice cream and cake.

Is P responsible for the girl getting an extra serving of ice cream and cake?

- III +M P's supervisor told him that he would give P a large bonus if he could sell an insurance policy to the electronics plant in the next town. One day the business manager of the plant called P and told him he would like to discuss buying insurance with him. P didn't feel like making the drive that day so he gave the message to another salesman. The other salesman went to the electronics plant and sold them an insurance policy. Later he received a large bonus for making the sale.

Is P responsible for the other salesman selling the insurance and getting the large bonus?

- III +H The house next door to P's caught on fire in the middle of the night. The blind couple who lived there were trapped on the second floor and were calling for help. P was afraid that his house might catch on fire too so he called the fire department to come and extinguish the blaze. The firemen came, heard the couple shouting, and rescued them.

Is P responsible for the blind couple being saved from the fire?

- III -L P was building a dog house in the driveway of his apartment house. When he finished he left without picking up all of the nails he had spilled. Later, a man drove in and got a flat tire.

Is P responsible for the man getting a flat tire?

- III -M P had a case of small pox and was not yet completely recovered. He got tired of staying in his house so he went down the street to visit some friends who had several small children. While he was there, P played with the children and the friends' little girl got small pox.

Is P responsible for the little girl getting small pox?

- III -H P was using dynamite to make a fishing pond on his farm next to a well-traveled highway. After he placed one charge he set it off without looking to see if any cars were coming. A car containing a vacationing family drove into the demolition area and they were all killed.

Is P responsible for the family dying in the explosion?

- IV +L P paid a newsboy to take a newspaper to an old man who was sitting on a park bench. The boy took the paper to the old man.

Is P responsible for the old man getting the free newspaper?

- IV +M P made an opening in his organization so that a student could get an interesting job. He told his personnel man to hire the student and the student got the job.

Is P responsible for the student getting an interesting job?

- IV +H P was watching a forest fire from a safe distance when he saw that a school bus loaded with children had bogged down in the mud directly in the path of the fire. P ran over and jumped in a tractor and pulled the bus to safety just before the area burst into flames.

Is P responsible for saving the busload of children from the forest fire?

- IV -L One day P's wife was supposed to drive in a car pool. P pretended that he would need their car that day so that another housewife would have to drive an extra day. The other woman had to drive the extra day.

Is P responsible for the housewife having to drive an extra day in the car pool?

- IV -M P sent in a very bad report on an employee so that he would lose his job. The employee was fired.

Is P responsible for the employee losing his job?

- IV -H P did not like one of the students in his dormitory and wanted to get him kicked out of school. He secretly planted some stolen exams in the student's room and then told the authorities he had been cheating. The stolen exams were found and the student was forced to leave college.

Is P responsible for the student having to leave college?

- V +L P's union threatened to expel him if he didn't give his assistant an extra coffee break. P let the assistant have an extra coffee break.

Is P responsible for the assistant getting an extra coffee break?

- V +M P owned a large ranch. One day his little daughter was saved from being trampled in a stampede by an alert worker who risked his own life to save her. P liked the worker very much and made him foreman on the ranch.

Is P responsible for the worker getting to be foreman?

- V +H A little boy was bitten by a poisonous snake and needed some serum to save his life, but he had wandered away from the hospital before the serum was injected. The members of P's club told P they would expel him from the club if he didn't help search for the boy. P then joined in the search and found the boy in time for the serum to be given which saved his life.

Is P responsible for the boy getting the serum in time to save his life?

- V -L P was about to go to class to take a test when he met another student who asked P to go to coffee with him. P at first refused but agreed to go when the student threatened to harm him if he did not. As a result P missed the exam and the teacher had to give him a make-up test.

Is P responsible for the teacher having to give a make-up test?

- V -M P was superintendent in a large factory. One of his workers had been very productive and P promised him that he would be promoted soon if he kept up the good work. Later, a man threatened to harm P if he promoted the worker. P refused to give the worker the promised promotion.

Is P responsible for the worker not getting the promised promotion?

- V -H A man had attacked and permanently injured P's brother and P disliked the man very much. One day P saw the man alone on the docks and he pushed him over board and left him to drown. The man drowned.

Is P responsible for the man drowning?

APPENDIX B-4

Numerical Location of each Stimulus Item under the
Four Orders of Presentation

Item	Orders			
	A	B	C	D
I +L	27	8	29	5
+M	13	6	5	13
+H	19	12	4	2
-L	26	29	11	21
-M	12	15	23	25
-H	4	7	8	6
II +L	3	1	13	9
+M	21	20	15	29
+H	20	26	16	18
-L	22	5	20	24
-M	25	4	14	30
-H	14	10	28	11
III +L	28	27	1	8
+M	30	3	24	20
+H	6	30	22	28
-L	16	11	18	27
-M	7	13	19	26
-H	11	14	17	22
IV +L	10	25	25	14
+M	2	22	7	4
+H	15	18	6	23
-L	23	9	3	3
-M	17	2	26	10
-H	18	24	9	7
V +L	9	17	27	19
+M	1	23	10	16
+H	29	21	30	12
-L	8	16	21	15
-M	5	28	2	17
-H	24	19	12	1

APPENDIX C

RAW DATA

APPENDIX C-1

RAW DATA FROM EXPERIMENT 1

ATTRIBUTION OF RESPONSIBILITY RATINGS

Order A

Subjects

Item	1	2	3	4	5	6	7	8	9	10	11	12
I +L	0	0	2	0	0	4	0	0	0	0	0	0
+M	2	5	0	0	1	3	0	10	1	0	9	0
+H	1	0	10	0	10	0	0	0	0	0	0	0
I -L	0	0	0	0	0	0	0	0	0	4	0	5
-M	5	0	0	0	0	0	0	0	5	0	9	0
-H	2	0	0	0	3	0	1	10	0	0	0	0
II +L	2	5	0	0	0	8	2	0	10	0	0	3
+M	4	5	2	0	0	0	0	0	0	0	0	2
+H	8	5	2	0	0	4	5	5	10	3	0	3
II -L	1	0	0	0	0	0	0	0	0	0	0	2
-M	3	0	5	0	6	2	5	0	0	0	6	2
-H	1	5	2	0	1	0	0	0	7	4	3	0
III +L	6	10	2	2	0	1	5	10	0	1	10	8
+M	3	0	8	3	7	0	8	10	3	4	5	4
+H	7	5	5	5	0	1	7	0	0	1	2	4
III -L	8	10	10	9	10	9	10	10	10	9	7	6
-M	9	10	8	9	10	9	10	10	10	0	10	11
-H	10	10	10	9	10	10	10	10	10	10	8	10
IV +L	10	10	10	9	10	10	10	10	0	9	10	8
+M	8	10	5	10	10	10	8	10	10	8	8	3
+H	9	10	5	9	10	10	10	10	10	9	7	9
IV -L	6	10	8	9	10	10	10	10	10	8	8	6
-M	6	10	8	8	9	9	9	0	5	9	9	6
-H	9	10	8	8	10	10	10	10	10	10	7	7
V +L	0	0	0	5	2	1	7	0	0	0	9	0
+M	8	10	8	8	7	10	8	6	3	5	10	5
+H	8	5	2	5	10	5	3	0	8	3	3	4
V -L	0	0	5	5	9	3	10	10	10	3	10	0
-M	5	5	10	5	8	5	10	0	8	7	9	3
-H	10	10	8	9	10	10	10	10	10	10	10	8

Order A

Subjects												
Item	13	14	15	16	17	18	19	20	21	22	23	24
I +L	0	4	3	0	1	0	0	0	0	1	0	0
+M	0	0	0	0	0	0	0	0	0	10	0	2
+H	5	0	0	0	0	0	0	0	0	0	0	0
I -L	0	10	0	0	0	0	0	0	0	4	0	0
-M	0	1	0	0	0	0	0	3	5	5	0	5
-H	0	1	2	0	0	0	0	0	0	4	0	0
II +L	6	2	8	0	1	1	1	3	2	0	6	0
+M	5	1	1	0	1	2	0	2	0	0	0	0
+H	10	3	4	0	1	8	2	9	10	6	0	0
II -L	4	0	1	0	0	1	0	0	0	0	0	0
-M	5	3	3	0	0	0	5	0	1	0	0	0
-H	3	1	9	0	1	7	2	0	0	0	8	3
III +L	10	5	2	0	5	5	7	3	7	7	9	0
+M	10	5	10	5	7	10	10	2	5	4	1	0
+H	9	3	3	0	0	3	0	4	1	8	1	1
III -L	10	10	10	10	10	10	10	4	10	10	3	9
-M	10	10	9	10	9	9	10	9	10	9	10	10
-H	10	6	10	10	10	10	10	8	10	9	9	10
IV +L	10	9	8	10	8	9	10	10	10	9	10	10
+M	10	8	8	10	10	10	7	10	10	10	10	9
+H	10	10	10	10	9	10	10	10	10	8	9	10
IV -L	10	10	10	10	10	9	10	10	10	9	10	10
-M	6	5	8	0	10	6	7	7	10	6	4	9
-H	10	10	9	10	10	9	10	10	10	9	10	10
V +L	0	0	7	10	0	0	0	0	7	0	0	0
+M	10	4	5	10	5	5	8	5	8	10	2	0
+H	10	10	2	6	2	8	2	7	5	2	0	1
V -L	7	10	10	5	9	5	10	10	9	2	1	0
-M	7	2	10	0	5	9	5	0	10	5	9	9
-H	10	7	10	10	9	10	10	7	10	9	10	10

Order B

Subjects

Item	1	2	3	4	5	6	7	8	9	10	11	12
I +L	0	0	0	9	10	0	0	0	0	0	0	0
+M	0	0	0	10	5	0	0	0	5	0	0	0
+H	0	0	0	0	10	0	3	0	1	0	0	0
I -L	0	7	0	0	7	0	0	0	0	0	0	0
-M	0	0	0	9	1	0	0	0	0	0	0	3
-H	0	0	0	0	0	0	1	0	10	0	1	3
II +L	7	4	0	9	10	5	1	3	2	0	1	0
+M	0	2	0	0	2	0	2	2	1	0	3	0
+H	2	10	8	10	8	5	4	8	9	7	10	4
II -L	0	0	0	5	5	0	1	0	2	0	2	0
-M	0	0	3	10	0	0	2	10	5	4	7	8
-H	0	0	3	0	2	0	4	0	4	5	4	0
III +L	9	10	10	6	5	3	5	8	10	0	10	8
+M	0	10	7	5	4	1	3	0	0	5	10	5
+H	5	10	7	10	3	10	3	5	4	3	5	4
III -L	10	5	10	10	9	10	9	10	10	10	10	10
-M	9	10	10	10	3	5	7	10	5	7	10	10
-H	10	10	10	10	10	10	10	10	10	10	10	10
IV +L	10	10	10	10	10	10	10	5	0	10	9	10
+M	9	10	10	10	6	10	10	10	9	10	10	9
+H	7	10	10	10	0	10	10	10	8	10	10	10
IV -L	0	10	10	10	8	10	9	5	10	10	10	10
-M	10	10	8	5	6	5	6	10	4	8	10	8
-H	10	10	10	10	10	5	10	10	8	10	8	10
V +L	1	0	5	4	2	0	0	0	1	5	4	2
+M	6	9	10	9	3	5	8	10	10	8	8	9
+H	1	10	9	10	4	10	4	8	2	4	4	3
V -L	6	0	10	8	1	10	1	8	2	5	5	8
-M	7	0	10	9	5	2	0	5	3	5	5	9
-H	10	10	10	10	6	10	9	5	9	10	10	10

Order B

Subjects													
Item	13	14	15	16	17	18	19	20	21	22	23	24	
I +L	0	0	0	0	5	0	0	0	0	0	10	0	
+M	0	0	0	0	0	0	0	0	0	1	0	0	
+H	3	0	0	0	1	1	4	0	0	0	0	1	
I -L	0	0	0	0	0	2	0	0	0	0	0	0	
-M	0	2	0	0	2	0	5	3	1	1	0	0	
-H	2	0	0	0	0	1	1	8	3	0	1	0	
II +L	2	0	0	1	1	3	5	7	5	5	0	7	
+M	8	0	0	2	0	3	5	0	0	1	1	6	
+H	9	1	2	3	7	10	9	7	10	10	5	9	
II -L	0	0	0	0	1	0	1	0	0	1	4	0	
-M	0	0	4	2	8	0	1	0	0	0	8	9	
-H	7	6	1	0	1	1	8	0	0	3	7	8	
III +L	9	8	0	2	4	6	2	3	7	10	7	10	
+M	7	0	2	1	4	2	8	6	10	3	2	6	
+H	6	0	0	1	5	8	6	7	6	4	7	5	
III -L	10	10	5	10	7	10	9	10	10	9	10	9	
-M	9	10	5	10	6	9	9	10	10	8	10	8	
-H	10	10	5	10	10	9	8	10	9	10	10	10	
IV +L	10	9	5	10	10	5	6	10	10	9	10	10	
+M	8	10	6	8	10	9	9	8	10	10	10	9	
+H	9	10	6	10	10	10	7	10	10	9	10	10	
IV -L	10	10	10	10	8	10	1	10	10	10	10	10	
-M	9	5	7	2	9	8	8	7	2	6	5	8	
-H	10	10	5	10	9	10	7	10	10	10	10	10	
V +L	1	0	0	0	4	2	1	0	9	0	3	9	
+M	6	1	3	2	9	2	8	8	10	8	4	10	
+H	4	3	3	3	9	7	2	7	7	6	4	9	
V -L	5	7	2	0	10	4	6	5	10	2	2	9	
-M	8	7	3	0	8	2	7	5	10	8	3	5	
-H	10	10	5	10	7	10	8	10	10	9	10	9	

Order C

Subjects

Item	1	2	3	4	5	6	7	8	9	10	11	12
I +L	0	0	4	4	0	0	10	1	0	0	8	0
+M	0	1	4	10	10	0	0	0	0	0	0	0
+H	1	0	0	5	0	0	0	3	0	0	10	0
I -L	0	0	0	0	0	0	0	1	0	0	2	0
-M	0	2	5	0	9	0	1	3	0	0	0	0
-H	0	0	5	0	6	0	0	1	0	0	0	0
II +L	5	4	3	0	4	7	10	4	0	6	2	7
+M	0	1	0	5	2	3	4	3	0	0	0	4
+H	0	4	10	10	7	10	10	8	5	5	4	10
II -L	0	1	0	0	0	0	0	4	0	2	1	2
-M	0	1	2	0	0	3	3	5	0	9	0	8
-H	0	1	4	5	3	0	0	6	0	6	0	8
III +L	10	2	4	4	10	2	10	9	5	8	5	6
+M	1	5	5	5	6	7	6	2	0	0	6	10
+H	1	4	5	5	4	7	6	4	5	8	0	10
III -L	10	8	10	10	10	10	5	9	5	5	10	10
-M	10	8	4	10	10	8	8	9	5	10	10	10
-H	10	8	10	8	10	10	6	9	10	10	10	10
IV +L	10	8	10	10	10	10	10	9	5	10	5	10
+M	10	8	10	6	10	10	8	8	5	8	0	9
+H	10	6	10	10	10	10	10	8	5	8	10	10
IV -L	10	8	10	10	10	10	10	9	10	0	9	10
-M	1	5	8	8	10	8	5	8	5	8	6	7
-H	10	8	10	4	10	10	10	9	5	6	10	10
V +L	0	1	2	0	0	6	5	3	0	9	0	8
+M	10	3	3	0	6	6	10	8	10	5	8	8
+H	5	5	5	0	8	7	5	7	5	7	9	9
V -L	5	5	6	0	0	7	7	4	0	10	0	8
-M	5	1	5	0	9	1	10	9	5	9	10	8
-H	10	8	5	3	9	10	10	5	5	0	3	10

Order C

Subjects

Item	13	14	15	16	17	18	19	20	21	22	23	24
I +L	0	8	1	0	0	0	0	0	0	0	0	0
+M	6	0	0	0	0	0	1	2	0	0	0	0
+H	0	0	0	0	0	0	0	0	0	0	0	2
I -L	0	0	0	0	0	0	0	0	0	0	0	0
-M	9	0	4	0	0	0	0	0	3	0	0	0
-H	0	0	2	2	0	0	0	3	5	4	3	1
II +L	5	1	2	5	4	5	10	5	4	5	1	2
+M	5	1	0	0	2	0	4	0	1	0	0	2
+H	8	7	1	4	10	10	10	8	5	10	2	2
II -L	0	1	0	0	1	0	6	0	2	0	0	2
-M	0	0	0	7	5	0	6	9	2	3	4	0
-H	2	4	0	1	0	5	9	8	3	1	0	3
III +L	10	9	6	5	3	5	8	0	5	2	4	10
+M	9	3	7	2	4	1	7	0	6	1	4	1
+H	10	1	0	8	10	10	9	3	3	0	10	1
III -L	9	8	5	7	3	10	10	9	5	9	5	10
-M	10	8	7	6	8	10	9	9	8	8	10	10
-H	10	10	8	8	10	10	10	9	5	8	10	10
IV +L	10	10	9	10	10	10	10	9	8	10	10	10
+M	10	8	3	9	10	10	9	3	9	10	8	10
+H	10	4	9	9	10	5	10	10	10	10	10	10
IV -L	10	9	8	10	10	10	10	9	10	10	10	10
-M	8	7	7	9	10	5	10	8	7	5	7	10
-H	10	7	6	10	10	10	10	9	8	10	10	10
V +L	0	6	0	3	0	5	4	7	6	0	1	0
+M	8	1	5	10	6	10	10	6	7	3	9	10
+H	10	4	0	5	5	5	10	7	6	5	10	2
V -L	8	10	5	5	5	5	9	9	6	3	3	7
-M	9	2	3	8	10	10	9	8	8	7	8	5
-H	10	9	8	10	10	10	10	9	8	10	10	10

Order D

Item	Subjects											
	1	2	3	4	5	6	7	8	9	10	11	12
I +L	1	0	0	0	0	10	9	0	0	5	0	0
+M	7	5	0	0	0	0	0	2	0	0	0	0
+H	1	0	0	0	0	10	10	0	0	0	0	0
I -L	0	0	0	0	0	0	0	0	0	0	0	0
-M	8	2	0	0	0	0	8	1	0	0	8	0
-H	7	5	2	0	2	5	0	0	0	0	5	0
II +L	8	5	2	10	5	2	8	6	0	5	2	5
+M	5	2	2	6	2	0	0	2	0	4	4	0
+H	10	1	8	8	5	10	7	7	0	9	6	9
II -L	1	1	2	5	1	0	0	0	0	4	0	0
-M	5	0	8	2	2	5	9	0	0	2	0	0
-H	5	0	4	0	3	0	2	0	0	8	1	0
III +L	5	5	10	0	7	3	10	5	10	8	2	8
+M	1	7	8	0	6	0	0	5	0	9	8	0
+H	5	2	3	0	5	0	0	4	0	9	5	2
III -L	7	10	10	10	9	5	10	10	10	9	8	10
-M	9	10	10	10	9	5	10	10	10	9	4	8
-H	10	10	10	10	9	10	10	10	10	10	9	10
IV +L	8	10	10	10	10	10	10	9	10	9	9	10
+M	8	10	10	10	10	10	10	9	10	8	8	10
+H	10	10	10	10	8	10	10	10	10	9	10	10
IV -L	10	10	10	10	10	10	10	10	10	8	10	5
-M	5	5	10	10	6	10	9	6	10	8	7	8
-H	8	8	10	10	7	10	10	10	10	8	10	10
V +L	1	2	8	0	3	2	0	3	0	5	4	0
+M	5	8	8	7	6	10	7	9	1	3	3	10
+H	1	5	10	0	5	10	8	8	0	7	10	0
V -L	1	2	8	5	7	0	0	9	10	7	6	5
-M	2	2	8	3	7	5	4	8	10	5	8	6
-H	10	10	7	10	8	10	10	10	10	10	8	9

Order D

Subjects

Item	13	14	15	16	17	18	19	20	21	22	23	24
I +L	1	10	8	0	1	0	0	0	0	5	10	6
+M	8	0	0	0	1	0	0	0	0	0	0	0
+H	0	1	4	0	1	0	0	0	0	10	0	9
I -L	0	0	0	0	0	0	10	0	0	0	0	0
-M	2	0	0	0	0	2	0	0	0	0	2	0
-H	0	0	4	0	1	1	0	3	3	0	0	0
II +L	1	8	5	5	3	2	8	2	6	2	5	0
+M	4	4	3	2	1	2	3	1	0	0	0	0
+H	1	9	7	1	1	3	5	10	6	10	10	4
II -L	1	8	3	0	0	2	3	0	0	2	0	0
-M	1	2	2	2	3	7	0	10	0	3	0	7
-H	5	7	0	5	1	1	3	0	5	1	7	0
III +L	5	9	8	3	3	4	0	5	8	10	7	5
+M	3	2	4	3	5	4	3	1	1	2	0	0
+H	8	7	2	5	2	5	5	2	8	0	1	3
III -L	9	10	9	9	8	10	10	10	10	10	10	8
-M	9	10	8	10	8	10	10	10	9	0	10	8
-H	9	9	7	8	8	10	10	10	10	10	10	10
IV +L	9	10	7	9	9	9	10	8	10	10	9	9
+M	2	10	7	8	9	10	5	10	10	10	7	10
+H	9	9	9	10	9	10	10	10	10	10	10	9
IV -L	7	10	8	10	9	10	10	8	10	10	8	6
-M	9	9	5	9	9	4	10	10	10	10	3	5
-H	10	10	9	10	9	10	10	10	10	10	10	0
V +L	1	4	0	2	0	3	5	3	2	5	0	0
+M	3	7	4	8	3	10	10	6	3	10	7	4
+H	3	9	2	3	2	7	3	9	9	5	10	2
V -L	2	4	5	8	0	8	0	10	7	5	10	1
-M	3	4	8	7	0	9	8	10	9	5	10	5
-H	10	10	6	10	7	10	10	10	9	10	10	9

APPENDIX C-2

RAW DATA FROM EXPERIMENT 2

ASSIGNMENT OF SANCTION RATINGS

Order A

Item	Subjects														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
I +L	10	10	10	10	10	10	10	10	10	10	10	10	10	10	11
+M	10	10	10	10	9	10	7	10	10	10	5	10	10	10	11
+H	10	10	10	10	10	10	10	10	10	10	10	10	10	15	10
I -L	10	10	10	10	10	10	10	10	10	10	10	10	10	10	5
-M	10	10	10	10	10	10	10	10	10	10	10	10	14	10	10
-H	11	15	13	10	11	10	13	20	10	10	13	11	10	10	10
II +L	10	10	10	10	10	10	8	10	10	10	10	10	15	10	18
+M	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
+H	10	11	10	10	10	10	12	10	11	10	10	10	10	13	11
II -L	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
-M	10	10	10	10	9	10	10	10	10	12	10	10	10	10	10
-H	16	17	10	10	10	15	13	10	11	14	14	14	13	10	13
III +L	10	10	10	10	10	10	10	10	10	10	9	7	10	10	10
+M	10	10	10	10	10	10	10	5	10	8	5	10	9	10	10
+H	10	10	10	10	9	10	16	10	9	10	7	10	5	10	9
III -L	11	13	13	10	11	15	14	12	11	13	12	12	12	11	14
-M	11	20	18	20	12	19	18	20	17	19	15	13	19	18	15
-H	18	20	18	13	18	19	17	20	15	19	20	20	17	20	17
IV +L	10	12	16	13	10	13	15	10	11	2	12	12	14	12	19
+M	10	13	15	10	8	13	6	10	11	14	18	10	17	13	16
+H	15	20	18	13	15	15	19	15	15	17	20	13	17	16	19
IV -L	10	11	14	20	11	13	15	10	13	15	11	15	12	11	16
-M	10	15	10	10	10	15	10	10	12	10	10	10	12	13	13
-H	11	15	17	20	15	14	19	20	15	17	20	20	19	12	20
V +L	10	10	10	10	10	6	10	10	10	4	6	10	8	10	10
+M	10	14	10	15	10	13	16	10	10	10	10	10	14	11	15
+H	10	13	10	10	9	10	14	10	10	12	8	10	11	10	10
V -L	10	10	10	10	11	10	10	10	10	16	10	10	14	10	14
-M	10	16	11	11	15	9	15	10	15	16	18	11	13	15	16
-H	18	15	19	15	18	19	14	20	19	17	20	20	18	20	20

Order A

		Subjects															
Item		16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
I	+L	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	+M	10	10	10	12	10	10	10	10	13	10	10	10	10	10	10	
	+H	10	10	10	19	10	10	10	10	10	10	19	17	10	10	10	
I	-L	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	-M	10	10	10	10	10	10	10	10	10	10	10	11	10	10	10	
	-H	10	10	10	11	12	11	14	10	10	10	11	16	20	10	15	
II	+L	10	10	10	13	10	10	11	10	10	12	13	12	10	16	20	
	+M	10	10	10	9	10	10	10	10	10	10	10	10	10	10	10	
	+H	20	10	11	10	10	17	10	10	14	10	11	10	10	10	10	
II	-L	10	10	10	11	10	10	10	10	10	10	10	10	10	10	10	
	-M	10	10	10	10	10	13	11	10	10	10	10	10	10	10	10	
	-H	10	12	10	9	10	15	17	10	10	13	12	13	10	10	20	
III	+L	10	10	10	10	10	10	10	10	10	10	9	10	10	10	9	
	+M	10	10	9	10	10	10	5	5	10	10	10	10	10	10	10	
	+H	5	19	8	11	6	0	5	3	13	10	11	2	6	4	5	
III	-L	11	15	12	12	12	12	11	10	15	13	13	12	19	15	14	
	-M	11	20	11	18	12	14	15	13	18	20	11	16	20	18	20	
	-H	19	20	14	10	16	19	18	14	20	20	19	19	18	20	20	
IV	+L	10	18	10	10	12	16	11	16	11	15	18	12	11	10	20	
	+M	10	20	10	13	10	7	11	10	11	20	16	10	15	17	20	
	+H	20	20	13	20	16	20	20	16	19	15	20	17	20	20	20	
IV	-L	10	16	10	12	11	12	9	11	16	20	15	11	13	13	16	
	-M	10	20	13	10	10	15	10	10	10	20	15	14	20	20	18	
	-H	18	20	18	18	15	18	20	17	18	20	19	14	20	19	20	
V	+L	10	10	10	10	8	10	10	2	2	10	12	10	10	10	10	
	+M	10	10	12	16	10	17	15	10	10	10	19	18	13	10	10	
	+H	11	20	12	10	11	14	15	14	13	10	12	8	12	10	19	
V	-L	12	20	10	20	11	14	10	15	10	17	10	11	10	10	19	
	-M	18	19	10	19	12	15	13	18	14	20	15	13	10	16	15	
	-H	20	20	20	20	18	20	20	20	20	20	19	19	19	20	20	

Order B

Subjects

Item	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
I +L	10	10	10	10	10	10	15	13	10	10	10	10	10	10	16
+M	10	14	10	10	10	10	16	7	10	10	10	10	10	10	10
+H	10	10	10	10	10	10	10	10	10	10	10	11	11	10	10
I -L	10	5	10	10	10	10	10	10	10	10	10	10	9	10	2
-M	10	5	14	10	10	10	10	10	10	10	10	10	10	10	10
-H	15	17	15	10	11	10	12	18	17	10	20	12	18	10	20
II +L	13	10	10	10	20	10	16	10	10	11	10	10	10	10	14
+M	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
+H	10	10	10	11	10	10	10	15	10	10	15	10	10	18	10
II -L	10	10	10	11	10	12	10	10	10	10	10	10	10	10	10
-M	12	10	10	10	10	10	10	10	15	10	10	10	10	16	15
-H	15	18	15	18	10	10	13	18	10	14	18	10	15	20	20
III +L	9	10	10	10	10	10	10	5	10	10	10	10	10	10	1
+M	10	8	10	8	10	10	5	5	10	3	6	9	8	10	0
+H	10	14	7	8	10	9	10	4	10	10	11	12	6	10	5
III -L	15	14	16	15	16	12	17	18	13	15	14	11	14	19	20
-M	19	14	18	18	20	15	17	20	16	18	20	18	18	20	20
-H	19	18	20	19	20	20	20	20	19	18	20	19	20	20	20
IV +L	16	16	16	11	10	12	17	12	11	13	15	13	12	18	20
+M	13	18	12	13	14	12	16	15	11	15	16	16	15	19	20
+H	16	20	20	20	20	17	20	18	19	20	20	20	17	20	20
IV -L	18	14	17	15	14	13	17	15	11	16	13	11	13	18	20
-M	17	10	20	13	10	18	20	11	14	18	18	18	14	19	9
-H	18	20	20	16	20	17	20	18	17	17	19	18	17	20	20
V +L	5	10	8	8	4	11	10	7	10	8	11	10	10	13	15
+M	15	15	18	12	18	12	15	12	10	10	18	11	14	16	16
+H	10	5	20	14	5	11	15	5	15	10	15	11	12	10	4
V -L	14	10	14	9	17	11	11	10	10	13	10	10	13	5	15
-M	19	8	16	12	20	12	18	17	11	19	11	10	16	19	15
-H	13	14	12	20	20	19	20	20	17	20	18	19	19	20	20

Order B

Subjects

Item	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
I +L	15	10	10	10	10	10	10	10	10	10	11	10	10	10	10
+M	12	10	10	10	10	10	10	10	10	10	11	10	10	10	10
+H	10	10	10	10	10	10	10	10	10	10	10	10	11	10	10
I -L	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
-M	10	10	10	10	10	10	10	16	10	10	10	11	11	10	10
-H	18	10	15	18	12	10	16	12	13	17	10	13	11	12	10
II +L	12	10	10	12	10	16	11	12	13	11	10	13	17	10	20
+M	12	10	10	12	10	10	10	11	10	10	10	8	10	10	8
+H	15	11	10	17	10	10	10	11	10	11	10	10	17	10	11
II -L	10	10	10	10	10	10	10	10	10	10	10	10	11	10	10
-M	15	10	18	10	11	10	13	11	10	10	10	10	10	11	10
-H	17	10	10	10	10	12	10	17	10	13	10	10	20	14	11
III +L	18	10	10	10	10	10	10	10	10	10	10	8	10	10	10
+M	18	10	10	7	10	7	10	5	8	5	10	10	18	10	10
+H	16	6	12	17	14	15	16	11	17	12	10	10	14	12	10
III -L	17	11	15	16	11	18	17	20	13	14	12	14	20	13	20
-M	19	14	20	18	14	20	17	20	15	17	15	16	20	18	20
-H	20	12	20	20	19	20	19	20	19	18	17	18	20	18	20
IV +L	19	12	11	16	12	14	13	19	14	13	10	13	12	17	11
+M	19	13	13	19	12	10	11	18	13	10	15	14	18	17	12
+H	19	10	20	20	19	20	19	20	20	18	19	20	20	20	20
IV -L	17	11	15	14	11	11	13	17	12	14	12	14	15	14	20
-M	18	15	15	17	10	20	17	5	10	10	15	10	13	14	0
-H	19	14	18	20	15	20	18	20	17	16	19	16	20	19	20
V +L	7	10	10	4	10	10	8	11	10	10	10	10	10	10	10
+M	17	10	15	10	10	13	10	13	16	10	10	10	15	10	10
+H	12	10	12	17	15	12	12	16	12	12	10	10	19	14	10
V -L	18	10	12	18	11	13	10	10	14	15	12	14	10	10	10
-M	17	10	15	20	11	15	13	14	14	12	13	13	10	13	18
-H	20	19	19	20	19	20	20	17	19	16	19	19	19	20	17

Order C

Subjects

Item	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
I +L	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
+M	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
+H	10	10	10	10	10	10	10	19	10	18	10	10	20	10	10
I -L	10	10	10	10	10	10	10	11	10	10	10	9	10	10	10
-M	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
-H	13	10	12	10	10	11	10	10	10	10	10	10	11	10	14
II +L	10	10	10	10	10	10	10	11	10	10	10	13	18	15	11
+M	10	10	10	10	10	10	10	13	10	10	10	10	10	10	10
+H	10	10	12	11	11	10	10	18	15	12	10	12	17	10	11
II -L	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
-M	10	14	10	10	10	10	10	10	10	10	10	10	10	11	13
-H	10	13	10	10	10	10	10	10	14	10	10	11	10	13	19
III +L	10	10	10	10	10	10	8	10	10	10	10	10	10	10	10
+M	10	12	5	10	9	10	10	6	7	10	7	10	10	8	10
+H	10	13	7	11	12	10	10	15	11	10	10	10	5	11	10
III -L	13	14	13	11	15	12	12	11	13	10	13	12	12	11	13
-M	14	14	20	13	13	12	15	10	17	13	18	15	20	19	15
-H	17	19	20	13	18	19	16	18	19	17	18	19	19	18	20
IV +L	16	11	12	12	11	11	15	13	12	10	10	12	15	16	11
+M	13	15	13	13	13	11	12	4	17	11	10	17	10	16	12
+H	19	20	20	18	20	15	20	20	20	18	20	20	20	20	20
IV -L	15	15	15	13	14	11	13	16	17	12	15	16	17	20	15
-M	10	10	10	10	13	15	20	16	10	14	10	15	17	10	6
-H	19	16	20	16	18	17	20	20	18	17	20	19	20	20	20
V +L	7	10	7	8	9	10	10	10	10	10	10	10	10	10	10
+M	10	9	12	10	12	10	17	4	13	10	10	13	10	12	10
+H	7	11	12	10	11	10	10	10	13	10	10	10	10	10	10
V -L	14	14	15	11	11	11	13	10	10	10	20	10	18	10	15
-M	17	15	15	16	13	13	10	10	14	16	13	15	19	17	17
-H	19	20	20	13	20	20	20	20	9	18	20	20	20	20	20

Order C

Subjects

Item	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
I +L	10	10	10	10	10	10	10	10	10	10	10	13	10	10	10
+M	10	15	10	12	12	10	10	12	18	10	10	10	10	10	10
+H	10	19	11	10	10	10	10	10	10	10	20	10	10	10	20
I -L	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
-M	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
-H	10	10	11	13	10	13	14	10	14	12	10	11	10	10	10
II +L	10	10	11	11	10	10	10	10	4	11	10	10	10	10	10
+M	10	10	12	10	10	10	10	10	10	10	10	10	10	10	10
+H	10	10	17	12	11	10	10	10	10	12	11	10	10	10	10
II -L	10	10	12	10	10	10	10	10	10	10	10	10	10	10	10
-M	10	10	11	10	15	10	18	10	20	10	10	12	10	10	10
-H	10	10	19	13	14	15	20	10	16	12	10	15	10	10	10
III +L	10	10	8	10	10	10	7	10	5	10	10	10	10	10	10
+M	5	3	14	12	10	7	10	10	2	10	10	15	6	15	10
+H	11	4	12	10	10	3	10	10	16	13	10	0	10	10	10
III -L	13	12	16	13	11	13	13	12	16	14	12	12	16	11	11
-M	14	12	20	15	14	15	18	15	18	14	13	11	20	15	13
-H	14	18	20	18	18	18	20	17	20	17	18	20	20	20	16
IV +L	10	13	15	12	11	15	15	11	15	13	12	15	10	11	11
+M	14	17	13	13	14	15	0	10	2	12	11	12	10	15	10
+H	15	19	20	17	20	20	20	20	20	18	19	20	20	20	20
IV -L	13	13	16	12	15	15	15	12	14	12	13	15	18	15	18
-M	15	17	18	10	14	10	10	10	0	12	17	15	10	16	18
-H	15	18	20	16	18	20	20	16	20	16	20	20	18	20	20
V +L	10	10	9	10	10	10	5	10	10	10	10	6	10	10	9
+M	10	15	16	13	10	10	10	10	11	12	10	11	10	12	10
+H	10	10	12	11	16	10	15	14	9	12	12	14	17	11	10
V -L	10	10	10	12	10	15	13	12	10	12	11	10	16	10	12
-M	10	17	10	12	13	15	20	16	16	13	16	10	17	14	18
-H	6	17	16	19	20	20	20	20	18	18	14	10	20	20	20

Order D

Subjects

Item	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
I +L	101	10	10	10	10	10	10	10	10	10	11	10	10	10	10
+M	10	10	10	10	10	10	10	10	10	9	10	10	11	10	10
+H	10	10	10	10	20	10	10	10	10	18	10	10	20	10	10
I -L	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
-M	10	10	10	10	10	12	10	10	10	10	10	10	10	10	10
-H	10	11	10	10	18	11	14	9	17	14	10	10	10	11	10
II +L	10	13	10	10	10	10	10	11	10	10	11	10	10	12	12
+M	10	10	10	10	10	10	10	10	10	9	11	10	10	10	10
+H	10	11	11	10	10	10	10	13	10	10	11	10	13	13	10
II -L	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
-M	10	10	10	10	10	14	11	11	15	10	10	10	10	10	10
-H	10	12	10	10	10	14	10	10	10	10	12	10	10	12	10
III +L	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
+M	10	10	10	10	10	4	10	7	5	10	10	10	6	6	10
+H	10	13	7	11	7	4	10	10	10	10	11	10	12	11	14
III -L	11	12	14	15	10	13	14	8	14	11	13	10	12	11	13
-M	14	15	14	15	13	17	17	6	15	15	14	12	10	15	18
-H	17	18	18	18	16	18	18	3	20	20	17	20	20	19	16
IV +L	14	11	12	15	13	15	15	11	13	11	13	15	10	15	13
+M	10	10	10	15	12	12	11	11	10	12	11	10	10	11	13
+H	17	19	17	20	17	18	17	20	20	19	19	20	20	18	20
IV -L	11	10	11	13	10	12	12	11	10	10	11	10	18	11	12
-M	13	10	11	10	10	16	12	18	10	15	12	12	16	14	14
-H	20	20	17	18	15	19	18	18	18	18	15	12	20	17	19
V +L	10	10	10	10	10	10	10	10	10	12	9	10	10	9	8
+M	10	11	10	12	13	12	10	10	10	18	11	10	11	15	10
+H	10	14	12	10	10	10	12	13	17	13	14	10	10	12	12
V -L	14	15	11	10	10	10	10	13	10	12	12	11	10	12	12
-M	14	15	12	10	10	13	12	12	14	14	11	13	16	12	13
-H	18	20	15	18	14	20	10	18	20	02	18	20	17	16	19

Order D

Item	Subjects														
	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
I +L	10	10	10	10	10	10	10	10	10	10	16	10	10	10	10
+M	10	13	10	10	10	10	10	10	10	10	6	10	10	8	10
+H	10	20	10	10	10	10	13	10	10	10	17	10	12	10	10
I -L	10	10	10	10	10	7	10	10	10	10	10	10	10	10	10
-M	10	10	10	10	10	10	10	12	10	10	10	10	10	10	10
-H	10	10	10	10	13	10	12	10	10	10	10	14	12	10	12
II +L	10	10	10	10	10	17	10	13	11	10	10	10	10	12	10
+M	10	10	10	10	10	10	10	10	10	10	5	10	10	10	10
+H	10	14	10	10	10	15	10	17	10	15	13	10	10	11	10
II -L	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
-M	10	10	10	10	12	10	10	10	10	12	10	13	17	10	11
-H	10	10	10	10	10	10	10	12	10	10	14	10	10	10	10
III +L	10	10	10	8	10	10	10	10	10	10	2	10	10	9	10
+M	10	9	10	7	10	5	0	10	10	10	10	15	10	6	9
+H	10	13	10	10	10	15	10	15	10	12	14	5	10	11	6
III -L	11	10	11	14	11	5	11	13	14	13	14	14	11	11	11
-M	11	11	14	17	14	20	16	14	18	13	14	18	18	13	15
-H	12	18	19	15	15	20	17	19	20	19	20	20	18	17	14
IV +L	11	13	12	16	17	17	11	15	15	20	7	15	10	12	10
+M	10	12	10	14	10	15	10	11	12	18	7	19	10	13	10
+H	12	20	19	19	19	20	20	19	20	20	2	20	12	20	14
IV -L	11	10	10	11	10	10	12	11	11	12	10	13	10	13	11
-M	12	15	10	17	13	5	20	18	10	10	12	17	15	10	10
-H	13	15	16	19	13	20	20	18	20	20	12	18	15	19	14
V +L	10	10	10	10	10	13	10	10	10	10	5	10	10	10	10
+M	10	12	10	12	10	10	20	10	10	13	15	11	10	18	10
+H	10	10	10	14	12	20	11	19	11	20	13	10	10	14	11
V -L	10	12	10	10	10	17	13	15	16	10	10	10	12	12	10
-M	10	10	12	11	10	16	15	16	15	18	12	12	12	13	11
-H	17	20	12	14	10	15	18	19	20	18	19	18	20	10	15

APPENDIX D

SUPPLEMENTARY ANALYSIS

Summary of the Duncan's Multiple Range Tests

APPENDIX D-1

Summary of Duncan's Multiple Range Test for AR: Levels by Quality

	I-	I+	II-	II+	III+	V+	V-	IV-	III-	IV+	Shortest Significant Ranges
Means	1.08	1.35	2.08	3.69	4.67	4.77	6.77	8.49	8.97	9.01	
I-	1.08										.33
I+	1.35	N.S.	*	*	*	*	*	*	*	*	.35
II-	2.08		*	*	*	*	*	*	*	*	.37
II+	3.69			*	*	*	*	*	*	*	.38
III+	4.67					N.S.	*	*	*	*	.38
V+	4.77						*	*	*	*	.39
V-	6.77							*	*	*	.40
IV-	8.49								*	*	.40
III-	8.97										.40
IV+	9.01									N.S.	.40

$$\sigma\bar{X} = .14$$

$$n = 288$$

Note: Asterisks indicate that the row and column means are significantly different ($p < .05$).

APPENDIX D-2

Summary of Duncan's Multiple Range Test for AR: Levels by Intensity

	I L	I H	I M	II M	II L	V L	II H	V M	IIIM	IIH	V H	IIIL	IV M	IV L	IV H	
Means	1.06	1.26	1.33	2.14	2.24	3.83	4.27	6.34	6.35	6.82	7.15	7.28	7.94	9.11	9.19	R ^a
1.06	N.S.	N.S.	*	*	*	*	*	*	*	*	*	*	*	*	*	.47
1.26		N.S.	*	*	*	*	*	*	*	*	*	*	*	*	*	.47
1.33			*	*	*	*	*	*	*	*	*	*	*	*	*	.50
2.14				N.S.	*	*	*	*	*	*	*	*	*	*	*	.51
2.24					*	*	*	*	*	*	*	*	*	*	*	.53
3.83						*	N.S.	*	*	*	*	*	*	*	*	.53
4.27								*	*	*	*	*	*	*	*	.54
6.34									N.S.	N.S.	*	*	*	*	*	.55
6.35										N.S.	*	*	*	*	*	.56
6.82											N.S.	N.S.	*	*	*	.56
7.15												N.S.	*	*	*	.56
7.28													*	*	*	.57
7.94														*	*	.57
9.11															*	.57
9.19																N.S.

$$\sigma_X = .17$$

$$n = 192$$

^aShortest significant ranges; all differences larger than R are significant.

^bAsterisks indicate that the row and column means are significantly different ($p < .05$).

APPENDIX D-3

Summary of Duncan's Multiple Range Tests for Mean AR for each Item

Level I	Means	.54	1.22	1.26	1.29	1.40	1.57	Significant Range
L-	.54		N.S.	N.S.	N.S.	*	*	.76
H+	1.22					N.S.	N.S.	.80
M+	1.26							.82
H-	1.29							.84
M-	1.40							.86
L+	1.57							
$S\bar{X} = .27$ $n = 96$								

Level II	Means	.90	1.53	2.58	2.75	3.58	5.96	Significant Range
L-	.90		N.S.	*	*	*	*	.90
M+	1.53			*	*	*	*	.94
H-	2.58				N.S.	*	*	.97
M-	2.75					N.S.	*	.99
L+	3.58						*	1.01
H+	5.96							
$S\bar{X} = .32$ $n = 96$								

Level III	Means	4.11	4.18	5.72	8.59	8.84	9.46	Significant Range
M+	4.11		N.S.	*	*	*	*	.98
H+	4.18			*	*	*	*	1.03
L+	5.72				*	*	*	1.07
M-	8.59					N.S.	N.S.	1.09
L-	8.84						N.S.	1.11
H-	9.46							1.12
$S\bar{X} = .35$ $n = 96$								

Note: Asterisks indicate that row and column means are significantly different ($p < .05$).

Summary of Duncan's Multiple Range Tests for
Mean AR for each Item
(continued)

Level IV	Means	7.20	8.69	9.10	9.11	9.16	9.23	Significant Range
M-	7.20		*	*	*	*	*	.59
M+	8.69			N.S.	N.S.	N.S.	N.S.	.62
L+	9.10							.64
L-	9.11							.65
H-	9.16		$S\bar{X} = .21$.67
H+	9.23		$n = 96$					
Level V	Means	2.29	5.34	5.37	6.01	6.67	8.95	Significant Range
L+	2.29		*	*	*	*	*	1.01
H+	5.34			N.S.	N.S.	*	*	1.06
L-	5.37					*	*	1.10
M-	6.01					N.S.	*	1.12
M+	6.67		$S\bar{X} = .36$				*	1.14
H-	8.95		$n = 96$					

APPENDIX D-4

Summary of Duncan's Multiple Range Test for AS: Levels by Quality

	III+	I+	I-	II+	V+	II-	V-	IV+	IV-	III-	Shortest Significant Ranges
Means	9.49	10.54	10.64	10.80	10.94	11.02	14.67	14.74	14.78	15.73	
III+	9.49	*	*	*	*	*	*	*	*	*	.34
I+	10.54		N.S.	*	*	*	*	*	*	*	.36
I-	10.64			N.S.	*	*	*	*	*	*	.37
II+	10.80				N.S.	N.S.	*	*	*	*	.38
V+	10.94					N.S.	*	*	*	*	.39
II-	11.02						*	*	*	*	.39
V-	14.67							N.S.	N.S.	*	.40
IV+	14.74								N.S.	*	.40
IV-	14.78									*	.41
III-	15.73									*	

$\sigma\bar{X} = .12$
 $n = 360$

Note: Asterisks indicate that the row and column means are significantly different ($p < .05$).

APPENDIX D-5

Summary of Duncan's Multiple Range Test for AS: Levels by Intensity

	I	L	I	M	II	M	II	L	V	L	III	L	I	H	II	H	III	M	IV	M	V	M	IV	L	III	H	V	H	IV	H
Means	10.04	10.16	10.42	10.60	10.67	11.04	11.57	11.71	12.43	12.90	13.02	13.23	14.00	14.92	18.16															R ^a
10.04	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	.39
10.16		N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	.41
10.42			N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	.42
10.60				N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	.43
10.67					N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	.44
11.04						N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	.45
11.57							N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	.45
11.71								N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	.46
12.43									N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	.46
12.90										N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	.46
13.02											N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	.47
13.23												N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	.47
14.00													N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	.47
14.92														N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	.47
18.16																													N.S.	.48

$\sigma\bar{X} = .14$
 $n = 240$

$\sigma_X^2 = .14$
 $n = 240$

^aShortest significant ranges; all differences larger than R are significant.
^bAsterisks indicate that the row and column means are significantly different ($p < .05$).

APPENDIX D-6

Summary of Duncan's Multiple Range Tests for Mean AS for each Item

Level I	Means	9.82	10.13	10.19	10.26	11.17	11.97	Significant Range
L-	9.82	N.S.	N.S.	N.S.	*	*	*	.52
M-	10.13		N.S.	N.S.	*	*	*	.54
M+	10.19			N.S.	*	*	*	.56
L+	10.26					*	*	.57
H+	11.17		$S\bar{X} = .18$				*	.58
H-	11.97		$n = 120$					

Level II	Means	10.00	10.06	10.85	11.13	11.27	12.16	Significant Range
M+	10.00		N.S.	*	*	*	*	.55
L-	10.06			*	*	*	*	.57
M-	10.85				N.S.	N.S.	*	.59
L+	11.13					N.S.	*	.61
H+	11.27		$S\bar{X} = .20$				*	.62
H-	12.16		$n = 120$					

Level III	Means	8.90	9.68	9.88	13.12	15.96	18.12	Significant Range
M+	8.90		N.S.	N.S.	*	*	*	1.12
L+	9.68			N.S.	*	*	*	1.18
H+	9.88				*	*	*	1.22
L-	13.12					*	*	1.25
M-	15.96		$S\bar{X} = .40$				*	1.27
H-	18.12		$n = 120$					

Note: Asterisks indicate that the row and column means are significantly different ($p < .05$).

Summary of Duncan's Multiple Range Tests for
Mean AS for each Item
(continued)

Level IV	Means	12.72	13.07	13.10	13.37	17.91	18.41	Significant Range
M+	12.72		N.S.	N.S.	N.S.	*	*	.99
M-	13.07			N.S.	N.S.	*	*	1.04
L+	13.10				N.S.	*	*	1.08
L-	13.37					*	*	1.10
H-	17.91		$S\bar{X} = .35$				N.S.	1.12
H+	18.41		$n = 120$					
Level V	Means	9.37	11.78	11.97	12.04	14.00	18.05	Significant Range
L+	9.37		*	*	*	*	*	.98
H+	11.78			N.S.	N.S.	*	*	1.03
L-	11.97				N.S.	*	*	1.06
M+	12.04					*	*	1.09
M-	14.00		$S\bar{X} = .35$				*	1.11
H-	18.05		$n = 120$					

REFERENCES

- Abelson, R. P., & Rosenberg, M. J. Symbolic psycho-logic: a model of attitudinal cognition. Behavioral Science, 1958, 3, 1-13.
- Asch, S. E. Studies of independence and conformity. A minority of one against a unanimous majority. Psychol. Monogr., 1956, 70, No. 9 (Whole No. 416).
- Bandura, A., & McDonald, F. J. Influence of social reinforcement and the behavior of models in shaping children's moral judgments. J. abnorm. soc. Psychol., 1963, 67, 274-281.
- Barnes, E. Punishment as seen by children. Ped. Sem., 1894, 3, 235-245.
- Barnes, E. Growth of social judgment. Studies in Education, 1902, 2, 203-217.
- Bialer, I. Conceptualization of success and failure in mentally retarded and normal children. Unpublished doctoral dissertation, George Peabody College for Teachers, 1960.
- Blake, R. R., Helson, H., & Mouton, Jane S. The generality of conformity behavior as a function of factual anchorage, difficulty of task, and amount of social pressure. J. Pers., 1956, 25, 294-305.
- Boehm, Leonore. The development of conscience of preschool children: a cultural and subcultural comparison. J. soc. Psychol., 1963, 59, 355-360.
- Bruner, J. S. The course of cognitive growth. Amer. Psychologist, 1964, 19, 1-15.
- Crissman, P. Temporal change and sexual difference in moral judgments. J. soc. Psychol., 1942, 16, 29-38.
- Cuber, J. F., & Pell, Betty. A method for studying moral judgments relating to the family. Amer. J. Sociol., 1941, 47, 12-23.
- Davidson, H. A. Forensic psychiatry. New York: Ronald Press, 1952.
- Diggory, J. C. Sex-differences in judging the acceptability of actions. J. soc. Psychol., 1962, 56, 107-114.
- Duncan, D. B. Multiple range and multiple F tests. Biometrics, 1955, 11, 1-42.

- Edwards, A. L. Experimental design in psychological research. (Rev. ed.) New York: Rinehart, 1960.
- Ekman, A. G. Measurement of moral judgment. Reports from the psychological laboratory, University of Stockholm, No. 115, 1962.
- Fauconnet, P. La responsabilité. (2nd ed.) Paris: Alcan, 1928.
- Festinger, L. A theory of cognitive dissonance. Stanford: Stanford University Press, 1957.
- Guilford, J. P. Fundamental statistics in psychology and education. New York: McGraw-Hill, 1956.
- Harrower, M. R. Social status and the moral development of the child. Brit. J. Ed. Psychol., 1934, Vol. 1, 75-95.
- Heider, F. Social perception and phenomenal causality. Psychol. Rev. 1944, 51, 358-374.
- Heider, F. The psychology of interpersonal relations. New York: Wiley, 1958a.
- Heider, F. Social perception and phenomenal causality. In R. Tagiuri and L. Petrullo (eds.) Person perception and interpersonal behavior. Stanford: Stanford University Press, 1958b.
- Heider, F., & Simmel, Marianne. A study of apparent behavior. Amer. J. Psychol., 1944, 57, 243-259.
- Helson, H. Adaptation-level as a frame of reference for prediction of psychophysical data. Amer. J. Psychol., 1947, 60, 1-29.
- Johnson, R. C. A study of children's moral judgments. Child Developm., 1962, 33, 327-354. (a)
- Johnson, R. C. Early studies of children's moral judgments. Child Developm., 1962, 33, 603-605. (b)
- Kelley, H. H., & Lamb, T. W. Certainty of judgment and resistance to social influence. J. abnorm. soc. Psychol., 1957, 55, 137-139.
- Kilpatrick, F. P., & Cantril, H. Self-anchoring scaling, a measure of individuals' unique reality worlds. J. Indiv. Psychol., 1960, 16, No. 2.
- Kohn, M. L. Social class and the exercise of parental authority. Amer. Sociol. Rev., 1959, 24, 352-366.
- Levitt, E. E. Punitiveness and "causality" in grade school children. J. educ. Psychol., 1955, 46, 494-498.
- Lindquist, E. F. Design and analysis of experiments in psychology and education. Boston: Houghton Mifflin, 1953.

- McConnell, T. R., Jr. Suggestibility in children as a function of chronological age. J. abnorm. soc. Psychol., 1963, 67, 286-289.
- McGarvey, Hulda R. Anchoring effects in the absolute judgment of verbal materials. Arch. Psychol., 1943, No. 281.
- Michotte, A. The perception of causality. New York: Basic Books, 1963.
- Muuss, R. E. A comparison of "high causally" and "low causally" oriented sixth-grade children on personality variables indicative of mental health. Proc. Iowa Acad. Sci., 1959, 66, 388-394.
- Muuss, R. E. The effects of a one- and a two-year causal-learning program. J. Pers. 1960, 28, 479-491.
- Muuss, R. E. The transfer effect of a learning program in social causality on an understanding of physical causality. J. exp. Educ., 1961, 29, 231-247.
- Ojemann, R. H., Levitt, E. E., Lyle, W. H., & Whiteside, Maxine F. The effects of a "causal" teacher training program and certain curricular changes on grade school children. J. exp. Educ., 1955, 24, 95-114.
- Pastore, N. The role of arbitrariness in the frustration-aggression hypothesis. J. abnorm. soc. Psychol., 1952, 47, 728-731.
- Pepitone, A. Attributions of causality, social attitudes, and cognitive matching processes. In R. Tagiuri and L. Petrullo (eds.) Person perception and interpersonal behavior. Stanford: Stanford University Press, 1958.
- Pepitone, A., & Kleiner, R. The effects of threat and frustration upon group cohesiveness. J. abnorm. soc. Psychol., 1957, 54, 192-200.
- Pepitone, A., & Sherberg, J. Cognitive factors in interpersonal attraction. J. Pers., 1957, 25, 757-766.
- Piaget, J. The child's conception of physical causality. London: Kegan, 1930.
- Piaget, J. The moral judgment of the child. New York: Harcourt, Brace, 1932.
- Piaget, J. The moral judgment of the child. Glencoe, Ill.: Free Press, 1948.
- Piaget, J. The language and thought of the child. New York: Meridan, 1955.
- Schallenger, M. Children's rights. Ped. Sem., 1894, 3, 87-96.
- Seeman, M. Moral judgment: a study in racial frames of reference. Amer. Sociol. Rev., 1947, 12, 404-411.

- Shaw, M. E., & Sulzer, J. L. An empirical test of Heider's levels in attribution of responsibility. J. abnorm. soc. Psychol., 1964, in press.
- Sherif, M., & Sherif, Carolyn W. An outline of social psychology. (rev. ed.) New York: Harper, 1956.
- Skinner, B. F. Walden Two. New York: Macmillan, 1948.
- Skinner, B. F. Cumulative record. New York: Appleton-Century-Crofts, 1961.
- Solomon, R. L. Punishment. Amer. Psychologist, 1964, 19, 239-253.
- Stern, W. Die menschliche Persoenlichkeit. Leipzig: Barth, 1923.
- Sulzer, J. L., Nickols, Shirley, Blum, J. M., & Brant, W. M. An attempt to demonstrate balance effects in the attribution of responsibility and the evaluation of outcomes. Unpublished manuscript, Department of Psychology, University of Florida, 1963.
- Sulzer, J. L., & Shaw, M. E. An exploratory investigation of the effects of ethic origin upon the attribution of responsibility. Paper read at Southeastern Psychological Association, Miami Beach, Florida, 1963.
- Thibaut, J. W., & Riecken, H. W. Some determinants and consequences of the perception of social causality. J. Pers., 1955, 24, 113-133.
- Thrasher, J. D. Interpersonal relations and gradations of stimulus structure as factors in judgment variations: an experimental approach. Sociometry, 1954, 17, 228-241.
- Wallach, M. A., Kogan, N., & Bem, D. J. Diffusion of responsibility and level of risk taking in groups. J. abnorm. soc. Psychol., 1964, 68, 263-274.
- Warner, L. H. A study of thirst behavior in the white rat by means of the obstruction method. J. genet. Psychol., 1928, 35, 178-192.
- Wever, E. G., & Zener, K. E. Method of absolute judgment in psychophysics. Psychol. Rev., 1928, 35, 466-493.
- Whitehead, A. N. Adventures of ideas. New York: Macmillan, 1933.
- Worthy, M., Wright, J. M., & Shaw, M. E. Effects of varying degrees of legitimacy in attribution of responsibility. Paper read at Southeastern Psychological Association, Miami Beach, Florida, 1963.
- Wright, J. M. Attribution of social responsibility and self concept. Unpublished doctoral dissertation, University of Colorado, 1960.
- Wright, J. M. The effects of activity, identification, and group pressure upon responsibility attribution. Paper read at Southeastern Psychological Association, Miami Beach, Florida, 1963.

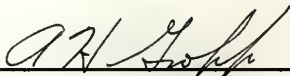
BIOGRAPHICAL SKETCH

Jefferson Lewis Sulzer was born March 29, 1927, at Macon, Georgia. In June, 1944, he graduated from Cuthbert (Georgia) High School and entered the United States Naval Reserve. After serving two years in the Pacific area he was honorably discharged and began training in commercial art. He studied in Texas for two years and later worked in Mexico with David Alfaro Siquieros. From 1949 until 1956 he worked as an industrial designer and free-lance artist in New Orleans, Louisiana. In 1956 he enrolled at Tulane University, where he received the Bachelor of Arts degree in 1960 and the Master of Science degree in 1961. During the period from 1959 to 1961 he worked as a research assistant on a large-scale investigation of memory factors. In 1961 he enrolled in the Graduate School of the University of Florida and was a College Teaching Career Fellow of the Southern Fellowships Fund until 1963. From 1963 until the present time he has been a National Science Foundation Graduate Fellow.

Jefferson Lewis Sulzer is married to the former Jenness Wilcox Eames and is the father of three children, Katherine, Christine and Richard. He is an Honorary Woodrow Wilson Fellow and is a member of Phi Beta Kappa, Sigma Xi, Psi Chi and the American Psychological Association. After graduation, he plans to move to New Orleans, Louisiana, where he has an appointment as Assistant Professor of Psychology in Newcomb College of Tulane University.

This dissertation was prepared under the direction of the chairman of the candidate's supervisory committee and has been approved by all members of that committee. It was submitted to the Dean of the College of Arts and Sciences and to the Graduate Council, and was approved as partial fulfillment of the requirements for the degree of Doctor of Philosophy.


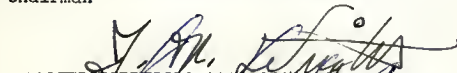

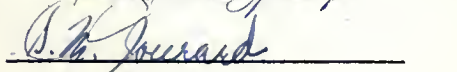
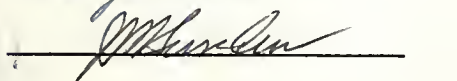
June 18, 1964



Dean, College of Arts and Sciences

Dean, Graduate School

Supervisory Committee:


Chairman




UNIVERSITY OF FLORIDA



3 1262 08554 7148